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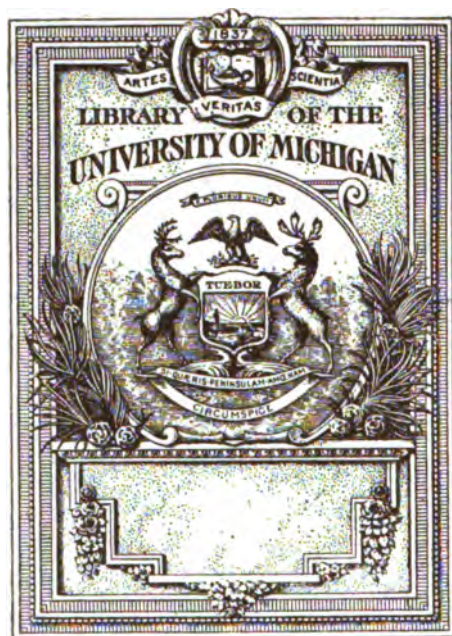
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THE NATIONAL ASSOCIATION OF CORPORATION TRAINING

NINTH ANNUAL PROCEEDINGS

Addresses, Reports, Bibliographies and Discussions

Chamber of Commerce

Niagara Falls, N. Y.

June 6th, 7th, 8th, 9th, 10th, 1921



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PURPOSES OF THE ASSOCIATION

The object of the Association is to found an organization that shall contribute in every way possible to the mutual benefit of all concerned in industrial and commercial enterprises; to develop the efficiency of the individual employe and to coordinate his best interests with those of employers; to develop the highest standards of efficiency in industrial operations; to have the courses in established educational institutions expanded to meet more fully the needs of industry and commerce; and to encourage all branches of literature, science and art, or any of them, that pertain to industry and commerce, with power;

(a) To acquire, hold and convey real estate and other property necessary or convenient for the purpose of the Association herein stated, and to establish general and special funds.

(b) To conduct, endow and assist investigation in all matters relating to commerce and industry; to the personnel relations of industry, and to the sciences, literature and arts bearing on said personnel relations; to establish Local Chapters of the Association and to encourage and cooperate with the Chapters which may be established; and to contribute in all ways possible to the economic and social peace and happiness, and the welfare of all those engaged in industry and commerce.

(c) To appoint committees or individual experts to direct or carry out special lines of research and investigation; and to make this information available:

1. To those engaged in industry and commerce.

2. To Academic and Technical Institutions conducting industrial and commercial courses.

(d) To publish and distribute documents and periodicals.

(e) To give courses in personnel direction and management.

(f) To conduct lectures.

(g) To hold meetings.

(h) To encourage and assist in the establishment of training, including classes, in industrial and commercial subjects in business concerns.

(i) To acquire and maintain libraries.

(j) To appoint such committee, councils or other subsidiary bodies, as shall be found necessary or desirable by the Board of Trustees for the furtherance of the objects of the Association, and to do and perform all things tending to promote the objects generally of said Association.

ORGANIZATION OF SUB-COMMITTEES FOR 1920-1921

APPLICATION OF PSYCHOLOGICAL TESTS AND RATING SCALES IN INDUSTRY

MISS ELSIE OSCHRIN, Chairman, R. H. Macy & Company, New York City.

- Duties:* a. To again state the method of development of tests and to give a history of their current usage with concrete instances.
b. To determine the indications for the continued and increasing use of tests in their application to employment and personnel problems.
c. To make further report on the use of the Rating Scale.

EMPLOYMENT

MR. H. E. VON KERSBURG, Chairman, R. H. Macy & Company, New York City.

- Duties:* a. To define the scope and functions of a standard employment department.
b. To study the relation of the employment department to other sub-divisions of personnel work—training department, health department, welfare department, safety department, etc., to study and report the relation of the employment department to production, accounting and financing, traffic, marketing.

EXECUTIVE TRAINING

DR. E. B. GOWIN, Chairman, Litchfield, Neb.

- Duties:* To study successful plans for the selection and training of men for executive positions.

FOREMAN TRAINING

MR. HARRY H. TUKEY, Chairman, Submarine Boat Corporation, Newark, N. J.

- Duties:* a. To define what are the scope and functions of foremen training.
b. To establish definite aims and to frame content which will meet these aims.
c. To discuss the merits of instructional methods.

HEALTH EDUCATION

DR. E. S. MCSWEENEY, Chairman, New York Telephone Company, New York City.

Duties: To make a study to determine best plans for health education and to recommend methods for the instructing of employes in the developing and maintaining of health.

JOB ANALYSIS

MR. HARRY A. HOPF, Chairman, Federal Reserve Bank of New York, New York City.

Duties: a. To determine the influence of job analysis on the equitable establishment of wages.
b. To determine human qualifications necessary for certain occupations.
c. To determine methods in the selection of employes for specific jobs.
d. To determine how best to utilize disabled men.
e. To make a study of correlations in the establishment of specifications for the same kind of work in the same plant and in different plants.

LABOR TURNOVER

DR. HUGO DIEMER, Chairman, LaSalle Extension University, Chicago, Ill.

Duties: To make a study of abnormal labor turnover of the present period due to the world war and how this extraordinary condition has been successfully met by certain industrial and commercial companies which have maintained a normal labor turnover.

MARKETING

MR. W. E. FREEMAN, Chairman, Westinghouse Electric & Manufacturing Company, East Pittsburgh, Pa.

Duties: To make the application of training to the fundamentals of marketing as set forth in the Sub-Committee Report of 1919.

OFFICE WORK TRAINING

MISS HARRIET F. BAKER, Chairman, The New York Edison Co., New York, N. Y.

Duties: To study the problems of training workers in small offices and departments and to suggest types of training adapted to them.

PROFIT-SHARING AND ALLIED THRIFT PLANS

MISS HARRIET F. BAKER, Chairman, The New York Edison Company, New York City.

Duties: To study the relative merits of various thrift plans and to outline typical programs for promoting thrift.

PUBLIC EDUCATION

MR. C. E. SHAW, Chairman, Dennison Manufacturing Company, Framingham, Mass.

Duties: To suggest a scheme of standards for rating the graduates of the public schools which will enable employers to judge more fully their fitness for their work.

SKILLED AND SEMI-SKILLED LABOR

DR. A. J. BEATTY, Chairman, American Rolling Mill Company, Middletown, Ohio.

Duties: a. To recommend a program for the developing of skilled and semi-skilled workers other than through apprenticeship.
b. To recommend methods for training for semi-skilled and skilled workers.

TECHNICAL TRAINING

DR. R. L. SACKETT, Chairman, The Pennsylvania State College, State College, Pa.

Duties: To continue the study of practical ways of securing co-operation between the industries and technical institutions:
1. By individual contact between the industries and the colleges;
2. By improvement in technical training methods;
3. By studying methods for the selection of men.

TRADE APPRENTICESHIP

MR. E. E. SHELTON, General Chairman, R. R. Donnelley & Sons Company, Chicago, Ill.

Duties: To suggest supplemental subjects which may well accompany the trade teaching of an apprentice school.

Section I—Manufacturing

MR. R. F. CAREY, Chairman, Westinghouse Electric & Manufacturing Company, Lester, Pa.

Duties: a. To make a study of the economics of apprenticeship.
b. To make a further study of the standardization of apprenticeship instruction.

Section II—Steel and Iron and Plant Maintenance

MR. JAMES R. BERRY, Chairman, American Rolling Mill Company, Middletown, Ohio.

Duties: a. To define the field for apprentice courses.
b. To study the possible extension of apprenticeship courses.
c. To outline typical courses.

Section III—Railroads

MR. J. H. YODER, Chairman, The Pennsylvania Railroad Company, Altoona, Pa.

Duties: a. To make a survey of the present status of trade apprenticeship in railroad shops.
b. To recommend helpful suggestions for the improvement of existing conditions and possible enlargement of the field.

TRAINING FOR FOREIGN COMMERCE

MR. C. S. COOPER, Chairman, W. R. Grace & Company, New York City.

Duties: To study existing schemes of training for foreign commerce and to show the best methods employed.

UNSKILLED LABOR AND AMERICANIZATION

MR. J. E. BANKS, Chairman, American Bridge Company, Ambbridge, Pa.

Duties: a. To consider the problem of increasing the efficiency of unskilled labor.
b. To continue the study of successful methods in Americanization work.

VISUALIZED TRAINING

MR. HOWARD M. JEFFERSON, Chairman, Federal Reserve Bank of
New York City.

- Duties:* a. To study the progress made in visualized training,
particularly the progress that has been made in the last six years.
b. To attempt to evaluate the work that has been done from an
educational standpoint.
c. To make suggestions regarding the ways in which visualized
training may be used effectively in industry and in commerce.

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NATIONAL ASSOCIATION OF
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Brooklyn Edison Company
Brooklyn, N. Y.</p> <p>C. P. STEINMETZ
General Electric Company
Schenectady, N. Y.</p> <p>F. W. TASNEY
The Prudential Insurance Com-
pany of America
Newark, N. J.</p> <p>H. J. TILY
Strawbridge & Clothier
Philadelphia, Pa.</p> <p>P. W. TURNER
Eastman Kodak Company
Rochester, N. Y.</p> <p>ARTHUR WILLIAMS
The New York Edison Company
New York, N. Y.</p> <p>B. L. WORDEN
Submarine Boat Corporation
Newark, N. J.</p> |
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OPENING OF THE CONVENTION

MINUTES

First General Session

MONDAY AFTERNOON—JUNE 6, 1921

Mr. E. R. Cole, President of the Western New York Chapter, called the meeting to order at 2:20 o'clock.

THE CHAIRMAN: It is with much pleasure that I welcome you to Niagara Falls, the power city of the world, far famed for possessing one of the seven wonders of the world.

It has been said, "A survey of nature and her beautiful proportions first caused man to imitate the divine plan and study symmetry and order. This gave rise to society and birth to all the useful arts." Applying this to our wonderful city, Niagara Falls has grown from the state of nature in which Father Hennepin first viewed its beauty and magnificence with awe and admiration in 1673 until it is today one of the foremost industrial cities of the world.

On behalf of the Chamber of Commerce whose courtesy has made possible the use of this building, for our convention, I again bid you welcome. Your registration badge entitles you to all privileges and facilities they have. From among the population of 55,000 the Chamber of Commerce has a membership of about 1,250, a record of which we are justly proud. It is now in its fourth year of activity and is making wonderful headway for civic improvements.

I now, Mr. President, with great pleasure and honor to me, on behalf of the Western New York Chapter welcome you and the delegates to be our guests during this National Convention. We hope your sojourn here will be both pleasant and enjoyable.

Ex-President Park will now address you.

ADDRESS OF EX-PRESIDENT PARK

Mr. Chairman, Ladies and Gentlemen: It is a very pleasant duty, that has been assigned to me, to say to our friends at Niagara Falls that we appreciate greatly their invitation that has made possible our coming here for this convention. Most of our meetings in previous years have been held in the larger cities, but I think that in none of them have we found more public spirit, more progressiveness and active business life than we find here in Niagara Falls. It is pleasant to come to a city whose boast is not in its size, but that depends on other features for its chief attraction.

We are all familiar with Niagara Falls through many contacts, some practical and some sentimental.

To our grandfathers Niagara Falls was largely a matter of recollection—they came here and were impressed with the wonder of the Falls, and went away carrying with them a pleasant memory of the things that they had seen—but today Niagara Falls have gone out into the world, not only into the industrial world. The power of the Falls is now exerting its influence in homes, on streets and in moving transportation, throughout a radius of hundreds of miles, and we find that that which to our grandfathers was a matter of sentiment only today has become a matter of great practical benefit.

As we have gotten into the work of our organization, we have been impressed, I think, with a fact that is somewhat similar to the experience of Niagara—the matter of schooling, that years ago was to some people a matter of sentiment, and to many that of the recollection of their early experiences today has gotten out into the world of everyday practical life. Many a boy and girl who leaves school to get away from the process of training and development along educational lines, finds that school and education have gone into industry and business life perhaps more strongly and more practically than they ever before found it.

I believe that the time is coming when most industrial people will look upon the business opportunities that come to them not so much from the point of view of an escape from education, but as the opportunity for completing their education.

We appreciate, Mr. Chairman, the courtesy extended to us by the Western New York Chapter, and I am sure that we shall enjoy the time that we spend here, not only the time spent in

the discussion of the various subjects on our program but we shall enjoy the beautiful surroundings of the city and the things made possible to us in your program for entertainment.

We hope that the City of Niagara Falls may find some return to it from the convention meetings here. Possibly something that will be presented here may give to the industrial life of the city some additional advantage and benefit that will, in part, repay it for the courtesies that it has extended to us. Without further remarks, Mr. Chairman, I wish to present the report of the ex-President of the Association for the past year.

EX-PRESIDENT'S REPORT

The ninth year of the National Association of Corporation Training has been one of the most eventful in its history. It has been a year of climax, the climax of many years' planning and effort, the fulfillment of the hopes of many administrations. As the year passes it carries with it much of the uncertainty and worriment that marked its entering; as the new year will be commenced it will bring new problems and new obligations, but they will be undertaken with a spirit of optimism born of the new order of things within the Association.

For the officers of the Association, the work of the past year has been largely that of reorganization. Given a mandate at the last election, the Executive Committee began early in the year a canvass of Class "A" members on the question of incorporation, and in August it announced the result of the referendum vote; a vote strongly in favor of incorporating. The work of incorporation was begun at once and in November the incorporating papers were received from the State of Delaware.

With the new charter came the need of electing trustees and this work was undertaken in November, but the time needed for securing acceptances from Class II Trustees and the election of Class III Trustees delayed the organizing of the Board until May 10th.

To the Association the change in operating management will mean three things:

1. The placing of its financial program upon a more secure and adequate basis.

2. The operation of the Association on a conservative yet progressive plan that will mean the greatest possible development of its resources and its possibilities.

3. The placing of the control of the organization in the hands of business executives.

In reviewing these factors let us not assume that the new régime will in any way lessen our financial obligations. The members of the Association must still pay its bills and provide funds for its development, but the present form of organization is, we believe, best calculated to inspire confidence and secure support.

With control passing to a more permanent Board of Trustees there is insured for the organization a stabilizing of its policy that should promote cooperation and make possible a program of continued development that could hardly be expected under an administration that changed its personnel each year. It is now possible for the Association to undertake a program that looks well into the future as well as meets immediate needs.

While the Board of Trustees is composed of men from various departments of business, the new officers have been chosen entirely from the executive field. The Board of Directors, which will be most active in studying the policies of the Association, is composed of men who will approach its problems from the executive's viewpoint and the Committees on Finance and Membership will promote their work through the leaders of industry and commerce.

While the management of the organization thus passes into the hands of experienced executives, upon the educational and personnel leaders of our member companies will fall the chief burden of directing the work of the sub-committees and the supplying of much of the material that forms the chief asset of the Association. These leaders compose the Executive Council and its Executive Committee, and they dominate its sub-committees and the preparation of reports. Their labors will not be lessened by the new plant, but as the scope of the Association broadens the work of this group will grow in importance and volume.

Thus our new form of organization divides the responsibilities of the Association into two chief groups and places each in the hands of those best fitted to carry them out. Cooperation between the two groups will mean the greatest possible develop-

ment for the organization, and we believe that this cooperation is assured.

In looking back over the year that is closing, your ex-President desires to express his appreciation of the hearty support that was given the administration by all branches of the organization. The Executive Committee has faithfully met its responsibilities and patiently "carried on" under adverse conditions. I wish to thank these gentlemen for their loyal support and valuable counsel.

The sub-committees this year have done most excellent work and deserve the highest praise for their accomplishments. Their labor has added greatly to the value of the Association's literature. To those who have supported our Local Chapter work I wish to express the thanks of the administration. These men and women have rendered most commendable service in helping to anchor firmly the Association in our chief industrial communities.

Too much cannot be said of the devotion and sacrifice of our Managing Director who has carried so large a share of the year's burden. To him more than to anyone else belongs the credit for the safe piloting of the Association into the port of permanent organization and for the charting of the conservative course that has led the Association to its present enjoyment of confidence and usefulness.

With such resources as the Association now has in the good will, the enthusiastic interest and the cooperation of its members, and the proved ability of those who have been chosen to be its officers and leaders, we believe that the year to come will be the best that the Association has seen; a year marked by the rendering of such a service to industry and commerce as will count strongly in the development of a high standard of business effectiveness.

CHAIRMAN COLE: The Managing Director, Mr. F. C. Henderschott, will present his annual report and also the Treasurer's annual report.

MANAGING DIRECTOR'S REPORT

Mr. President and Members: During the year the Association was incorporated under the laws of the State of Delaware, receiving its Charter on November 17. On January 11 the Executive Committee of the Association met in New York and unanimously approved the By-Laws which had been voted upon and indorsed by representatives of Class "A" member companies. From this date—January 11, 1921—the Association has functioned in accordance with the Charter and By-Laws, except that the Executive Committee continued in office until May 10.

Directly after the last annual convention held in New York, a vote was taken of representatives of Class "A" member companies on the following propositions:

1. To incorporate the Association.
2. To adopt the prepared By-Laws.
3. To determine the name of the reorganized Association.
4. To grant the Executive Committee power to make necessary changes in the By-Laws to conform with the Articles of Incorporation when the Association is incorporated.

At the August 17, 1920, meeting the Executive Committee canvassed the vote, which showed the following result:

In favor of incorporation 62; opposed 12.

In favor of adoption of the prepared By-Laws 57; opposed 15.

In favor of granting the Executive Committee power to make changes in the By-Laws 63; opposed 10.

In favor of continuing old name of the Association—"National Association of Corporation Schools" 7.

In favor of "The American Institute of Industry and Commerce" 25.

In favor of the "National Association of Corporation Training" 36.

The latter name having received a majority of the votes cast, the Executive Committee officially adopted the "National Association of Corporation Training" as the name under which the Association should be incorporated.

The Executive Committee immediately took action to incorporate the Association, and unanimously adopted the prepared By-Laws.

At this meeting on August 17, 1920, a committee was appointed to recommend a permanent location for the headquarters

of the Association. Mr. John McLeod was chairman of this committee. A committee was also appointed to incorporate the Association. Mr. Henry S. Dennison was chairman of this committee; and a committee was appointed on Finance. Mr. W. S. Sloan was chairman of this committee. After due consideration the Committee on Permanent Location of the Association's headquarters recommended New York City, and its report was unanimously adopted by the Executive Committee.

The Committee on Incorporation completed its work with the securing of the Association's Charter.

The Committee on Finance, after considering all of the factors involved in its problems, determined to await action until the Association was incorporated and the Board of Trustees elected, organized, and in charge of the Association's affairs.

At this same meeting on August 17, 1920, the Executive Committee took up the question of the selection of the members of the Board of Trustees in accordance with the new By-Laws which had been officially adopted. Under the By-Laws, the past Presidents, the President and Vice-Presidents and the Managing Director are automatically Class I members of the Board of Trustees. All of the Class I members indicated a willingness to serve. Class II Trustees consist of ten Trustees to be elected by the Class "A" members.

After discussion the Managing Director was instructed to ask the Nominating Committee, elected at the annual convention, to canvass Class "A" members for nominations for Class II members of the Board of Trustees, to verify their eligibility and willingness to serve, and to conduct an election of those nominated and eligible, and to certify the result of the election to the Executive Committee. Acting under this instruction, the Nominating Committee proceeded with its work, and on December 20, 1920, Mr. L. W. Lane, Chairman of the Nominating Committee, submitted a report showing that twenty-eight nominees had been voted for and the number of votes received by each. The ten nominees who had received the greatest number of votes were notified of their election, and as declinations to serve were received the nominee receiving the next highest number of votes was notified of his election until the required number of acceptances were received.

Class I and Class II Trustees were then asked to nominate

candidates for Class III Trustees. Twenty-three persons were nominated, and a mail vote was then taken of Class I and Class II Trustees, and the nominees receiving the highest number of votes were notified of their election. As declinations to serve were received, the person receiving the next highest number of votes was notified of his election, until the required number of acceptances were received.

President Park then asked the Executive Committee to meet in New York on Tuesday, May 10, at 10 o'clock. He also requested those who had been elected as members of the Board of Trustees to meet in New York at the same place and on the same date, but at 2 o'clock. The Executive Committee met and completed its duties, and adjourned sine die. The Board of Trustees convened at 2 o'clock, and organized by electing the following:

MR. W. W. KINCAID	<i>President</i>
MR. T. E. DONNELLEY	<i>Vice-President</i>
DR. LEE K. FRANKEL	<i>Treasurer</i>
MR. F. C. HENDERSCHOTT	
	<i>Secretary and Managing Director</i>

The Board of Trustees also elected a Board of Directors consisting of:

MR. M. S. SLOAN, <i>Chairman</i>
DR. LEE K. FRANKEL
MR. F. W. TASNEY
MR. EDGAR J. KAUFMANN
MR. B. L. WORDEN
MR. H. S. DENNISON
MR. M. D. GEHRIS
MR. JOHN MCLEOD

The Board also cast lots for terms of office, as under the Charter and By-Laws the terms of two Class II Trustees and two Class III Trustees expire yearly, each member serving for a term of five years after the original members have served their terms of membership. The drawing resulted as follows:

CLASS II

For a five-year term: Mr. W. H. Ingersoll and Mr. E. S. Marston.

For a four-year term: Mr. S. H. Bullard and Mr. M. W. Mix.

For a three-year term: Mr. T. E. Donnelley and Dr. L. K. Frankel.

For a two-year term: Mr. N. F. Brady and Mr. E. J. Kaufmann.

For a one-year term: Mr. M. D. Gehris and Mr. W. S. MacArthur.

CLASS III

For a five-year term: Mr. L. L. Branthover and Dr. C. C. Burlingame.

For a four-year term: Mr. P. W. Turner and Mr. B. L. Worden.

For a three-year term: Mr. F. W. Tasney and Col. F. R. Ayres.

For a two-year term: Mr. F. S. Blanchard and Mr. H. A. Hopf.

For a one-year term: Mr. F. H. Dodge and Mr. T. E. Mitten.

The term of office of the members of the Board of Directors was fixed for a period of one year.

The Association thus began functioning under its Charter and under the management of the Board of Directors on Tuesday, May 10, of this year.

The Board of Trustees voted unanimously to admit educational institutions to Class "A" membership.

Membership

At the close of 1920 the Class "A" membership of the Association had reached its highest point—156 members; but the Association, like other organizations, has felt the effects of the present business depression, and its loss in membership has approximated 20 per cent. In previous years the loss in membership at the renewal period has averaged from 12 to 17 per cent. For a time during the latter part of last year and the early months of this year new Class "A" memberships were not ob-

tained, but these memberships are again coming in, although at a lower rate than during normal periods.

The loss in Class "B" and Class "C" memberships was about the same as in previous years, and there has been no decrease in the number of new memberships of these classes.

The Board of Directors has appointed a Membership Committee to relieve the Managing Director of the responsibility of maintaining the Association's membership, and to devise methods for securing new members. It is probable that the Chairman of this Committee will have a message to present during the convention.

Special and Confidential Reports

During the past year two Confidential Reports and two Special Reports have been issued. In the Confidential series, Report No. 6—"Methods of Transfer and Promotion in Business Organizations"—was issued in October of last year, and Report No. 7—"Employee Stockownership Plans"—was issued in March this year. In the Special series, Report No. 6—"Employee Insurance"—was issued in October of last year, and Report No. 7—"Business Suggestions from Employees"—was issued in March of this year. All of these reports have been considerably in demand on the part of our Class "A" member companies.

During the year the Executive Committee limited the number of Confidential or Special Reports which may be received without charge by Class "A" member companies to five copies of each report. Additional copies, however, may be purchased at a nominal figure, or approximately the cost of printing.

Sub-Committee Reports

A portion of the service which the Association renders its members is carried on through voluntary effort, and this service is dependent upon the ability of those of our members who are requested to serve or who volunteer to give the time and attention necessary in the performance of the duties assigned to them. The Sub-Committee Reports are wholly a matter of voluntary contribution. These reports, together with their discussions at the convention, form the annual volume of Proceedings.

This year there were twenty Sub-Committees to whom duties were assigned, and nineteen of these committees functioned. The chairman of the other Sub-Committee resigned during the winter, and the guidance of that committee was taken over by Miss Harriet F. Baker, who has also assisted your Managing Director in the preparation and issuance of the Confidential and Special Reports. Miss Baker had already assumed the chairmanship of the Committee on "Profit Sharing and Allied Thrift Plans," but as it was too late to secure another voluntary chairman she willingly assumed the task of heading the Sub-Committee on Office Work Training, and this Committee has issued a report which will be discussed during this meeting.

When it is recalled that four of the Sub-Committees last year did not prepare reports, the showing made this year is most gratifying. Every effort was made by your Managing Director to have these reports in hand for printing not later than April 1. This, however, was not possible. Voluntary service must always be secondary, and some of the reports were not received for printing until well into May; nevertheless, it was possible to issue all these reports and to mail them to our members in ample time to give opportunity for careful reading before the convention. The character of the Sub-Committee Reports is very high.

1920 Proceedings

The 1920 volume of Proceedings consists of 822 pages, and was issued in the early part of October, or about one month earlier than the Proceedings of the previous year were published.

Monthly Bulletin

The Managing Director's office has continued to issue the Association's monthly *Bulletin* along the same lines as in previous years. Each issue has contained a feature article, and it has been our effort to include in the *Bulletin* information regarding the development of established departments in personnel activities and to chronicle new developments.

Local Chapters

The Association's five local chapters have all functioned, and on a more definite basis as to subjects treated. The Southern

New England Chapter was established during the year and has taken its place with the other Chapters as one of the mediums through which service is rendered to members. Business conditions have not favored the establishment of additional chapters.

Consultation Service

The number of inquiries for information and for other service received by the Managing Director's office steadily increased until during the latter part of 1920. Requests for consultation service then fell off, but a considerable number were received during the winter, and during the past few weeks these requests have again increased, and at the present are not far from the maximum. These requests are for information of every character, and come from non-members in even a larger volume than from our membership. There seems to be an erroneous but general impression that the Managing Director can assist those desiring to enter the personnel field in securing employment, although the number of requests from member companies for information regarding candidates for personnel positions has probably not exceeded a half dozen during the entire year. There is considerable inquiry for information along the lines of the service the Association renders to its members, and also considerable inquiry for information outside of the personnel field. In so far as possible this information has been furnished to members whether or not the request came within the scope of the Association's service.

Future Developments

At a meeting of the Board of Directors held in New York Saturday, June 4, the Finance Committee, which had been appointed by the Board of Trustees, submitted a report in which they recommended asking each Class "A" member to contribute \$100 to the Association with which to meet war costs. This recommendation was adopted by the Board of Directors, and the plan will result in wiping out the deficit and again placing the Association in healthy condition.

The Board of Directors also considered the various factors entering into the Association's service to its members and cre-

ated a "Plan and Scope Committee" to which was referred:

1. Policy of the Association as to:
 - (a) Monthly *Bulletin*
 - (b) Special and Confidential Reports
 - (c) Sub-Committee Reports
 - (d) Annual volume of Proceedings.
2. General policy of the Association as to:
 - (a) Immediate developments
 - (b) Future developments.

In discussing the Association's future, Dr. Frankel stated that the Association under its incorporated form is a new organization, and that those charged with the responsibility for the Association's policies and management should, through a Plan and Scope Committee, carefully analyze the monthly *Bulletin*, the Special and Confidential Reports, the Sub-Committee Reports and the annual volume of Proceedings with a view to determining how, if at all, these services may be improved. The Board of Trustees will also consider recommendations from the Plan and Scope Committee as to immediate developments in a plan designed to make the full program of the Association as outlined in its Charter effective. The Plan and Scope Committee will also report to the Board of Trustees as to future developments.

It was the desire of the Board of Directors that your Managing Director call to your attention during this convention the plans as outlined, and to request members to make recommendations to the Plan and Scope Committee so that in determining the Association's policies and future developments, the Board of Trustees would be guided and aided by the wishes and the advice of its members.

The Board of Directors deemed it fitting that there be a discussion during the business session of this convention of the Association's service, and your Board of Trustees would welcome suggestions as to how this service may be improved or enlarged upon.

The Board of Directors also asked the Membership Committee to make a careful investigation of the whole membership question and to report their findings to the next meeting of the Board of Trustees. There was in the minds of the members

of the Board of Directors in this connection two needs; first, the need for additional Class "A" membership; and secondly, a careful investigation as to whether or not the services of the Association cannot be extended to a much larger number of business organizations.

As previously reported, your Board of Trustees have admitted educational institutions to Class "A" membership.

Conclusion

At the business session held during the Chicago convention Class "A" representatives expressed a desire that the Association be placed on an independent basis as rapidly as possible. The financial resources of the Association have prevented much progress in this direction, although the Association has taken over one employe—Miss Walter, whose salary was previously paid by the New York Edison Co.—at an annual expenditure of \$1,456. Miss Walter keeps the Association's books, handles all office work, including the shipment of Reports, Proceedings, etc., and assists the Managing Director. The Association also has paid \$25 per month toward the salary of another employe—Miss Baker—whose services have in part been devoted to the Association's work. Miss Baker has compiled the Special and Confidential Reports and the feature articles published in the monthly *Bulletin*, in addition to acting as chairman of the Sub-Committee on "Profit-Sharing and Allied Thrift Plans," and also the Sub-Committee on "Office Work Training." She also makes special investigations to secure information requested and furnished through the Association's correspondence.

The New York Edison Co., however, still furnishes rent, storage, stenographic and mimeographic service, and junior clerk, amounting altogether to about \$6,000 per year.

The reorganization of the Association is complete, and the management is now in the hands of executives of business organizations. Plans have already been perfected to secure the additional revenue necessary to carry on the Association's activities. Plans have also been made for a complete analysis and survey of the Association's service with a view to perfecting this service as far as practicable and to an enlargement and extension of the service. Your Board of Directors, however, and your

Board of Trustees and your various committees will need your hearty cooperation and earnest support. The first steps have been completed in making effective the full program as outlined in the Association's Charter. Ultimately there will come into existence a great business laboratory where extensive research will be conducted, personnel problems studied, and authentic information as to the needs of industry, commerce, and the universities will be furnished. The accomplishments of the past year are such as to arouse the pride of every member, and the future promises an opportunity for accomplishment, the magnitude of which inspires enthusiasm.

The whole world is undergoing a change, and in the final readjustment, the determination of fair and progressive policies for the relations of capital, workers, management and the public will prove one of the elements, perhaps the major element in the future peace and prosperity of our own country. In this program this Association is destined to play a leading part.

MR. HENDERSCHOTT: I shall now submit the report of the Treasurer. I was the Treasurer of the Association up to the time of the annual audit. This year we have made up in percentages for what the funds of the Association are spent, and also from what sources they are received. I shall read that in connection with this general statement or report. I presume you will not care to have all the details read to you, but shall read them if you desire.

**STATEMENT TAKEN FROM ACCOUNTS OF THE
NATIONAL ASSOCIATION OF CORPORA-
TION TRAINING AS OF MAY 14, 1921**

AUDITED AND VERIFIED BY MR. M. T. CHERNICH

From May 15, 1920, to May 14, 1921, inclusive

Cash on hand close of accounts May 15, 1920..... \$10,285.25

Receipts

Dues Class "A" members.....	\$14,175.00	
Dues Class "B" members.....	880.00	
Dues Class "C" members.....	1,430.00	
First Proceedings	25.00	
Second Proceedings	14.00	
Third Proceedings	25.00	
Fourth Proceedings	25.00	
Fifth Proceedings	30.00	
Sixth Proceedings	27.00	
Seventh Proceedings	115.50	
Eighth Proceedings	381.00	
Special and Confidential Reports.....	148.00	
Bound <i>Bulletins</i> and Subscriptions.....	319.75	
Interest on Bank Deposits.....	243.15	
	<hr/>	17,838.40
		<hr/>
		\$28,123.65

Disbursements

Administration	\$7,151.20	
<i>Bulletins</i>	5,299.04	
Eighth Proceedings	4,541.05	
Local Chapters	540.00	
Special and Confidential and Committee Reports	5,592.02	
Convention Expenses	673.81	
	<hr/>	
	\$23,797.12	
Cash Balance May 14, 1921	4,326.53	
	<hr/>	
		\$28,123.65
	M. T. CHERNICH,	
	<i>Auditor.</i>	

RECONCILIATION OF ACCOUNT

NATIONAL ASSOCIATION OF CORPORATION TRAINING

WITH

THE FARMERS' LOAN & TRUST COMPANY OF NEW YORK

As of Close of Accounts, May 14, 1921

Balance as per Check Book				\$4,326.53
Balance as per bank statement.....				\$4,632.43
Deduct outstanding checks:				
No.	Date	Payee	Amount	
344	5/ 2/21	P. E. Wakefield....	\$30.00	
345	5/14/21	F.C.Henderschott	250.00	
346	5/14/21	Harriet F. Baker..	25.00	
349	5/14/21	Albert Romeike &		
		Co.90	305.90
				\$4,326.53 \$4,326.53

THE FARMERS' LOAN AND TRUST COMPANY
22 William Street, New York

May 17, 1921.

We have to advise you that at the close of business May 14, 1921, there was on deposit to the credit of the account of The National Association of Corporation Training, Four thousand six hundred thirty two 43/100 Dollars.

THE FARMERS' LOAN AND TRUST COMPANY,
By T. M. GODWIN,
Assistant Cashier.

\$4,632.43.

FINANCIAL STATEMENT

NATIONAL ASSOCIATION OF CORPORATION TRAINING

AS OF MAY 14, 1921

Assets

Cash Balance—Farmers' Loan & Trust Co.....	\$4,326.53
Cash for Petty Expenses.....	8.91
Postage	143.18
<i>Unpaid Dues and Subscriptions:</i>	
Class "A" Dues.....	\$ 575.00
Class "B" Dues.....	55.00
Class "C" Dues.....	10.00
Proceedings (1st to 8th volumes).....	61.00
Bound <i>Bulletins</i> and <i>Bulletin</i> Sub-	
scriptions	33.50
Special and Confidential Reports.....	8.00
	742.50

Proceedings and Bound Bulletins on Hand:

First Proceedings (year 1913), 32 at \$2.50 per volume.....	80.00	
Second Proceedings (year 1914), 240 at \$2.00 per volume.....	480.00	
Third Proceedings (year 1915), 336 at \$3.50 per volume.....	1,176.00	
Fourth Proceedings (year 1916), 359 at \$3.50 per volume.....	1,256.50	
Fifth Proceedings (year 1917), 376 at \$3.50 per volume.....	1,316.00	
Sixth Proceedings (year 1918), 403 at \$2.00 per volume.....	806.00	
Seventh Proceedings (year 1919), 481 at \$5.00 per volume.....	2,405.00	
Eighth Proceedings (year 1920), 483 at \$6.00 per volume.....	2,898.00	
1915 Bound <i>Bulletins</i> , 5 at \$2.50 per volume	12.50	
1917 Bound <i>Bulletins</i> , 25 at \$2.50 per volume	62.50	
1918 Bound <i>Bulletins</i> , 69 at \$2.50 per volume	172.50	
1919 Bound <i>Bulletins</i> , 81 at \$3.00 per volume	243.00	
1920 Bound <i>Bulletins</i> , 90 at \$3.00 per volume	270.00	
	<hr/>	
	\$11,178.00	
Deduct 75% for Loss, etc.....	8,383.50	2,794.50
		<hr/>
		\$8,015.62
<i>Liabilities</i>		
Surplus		\$8,015.62
	M. T. CHERNICH, Auditor.	

ANALYSIS OF DISBURSEMENTS

FROM MAY 15, 1920 TO MAY 14, 1921, INCLUSIVE

ADMINISTRATION :

Office Salaries.....	\$4,886.00	
Printing	358.75	
Postage	1,013.50	
Stationery	421.60	
Incorporation	328.49	
Miscellaneous :		
Exchange on Checks.....	\$ 6.48	
Carfares	15.55	
Express Charges.....	35.28	
Telegrams	21.37	
Premium on Surety Bond....	12.50	
Press Clippings.....	27.16	
Rubber Stamps.....	2.60	
Books, etc.....	21.92	
	<hr/>	142.86
		<hr/>
		\$7,151.20

BULLETINS :

Postage	510.30	
Printing	4,252.30	
Stationery	436.44	
Binding	100.00	
	<hr/>	5,299.04

EIGHTH PROCEEDINGS :

Printing	4,541.05
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SPECIAL, CONFIDENTIAL AND COMMITTEE

REPORTS:

Special Report No. 5.....	339.93	
Special Report No. 6.....	516.96	
Special Report No. 7.....	1,009.50	
Confidential Report No. 2.....	251.09	
Confidential Report No. 5.....	695.42	
Confidential Report No. 6.....	399.74	
Confidential Report No. 7.....	943.63	
Report on Public Education.....	36.00	
Report on Profit-Sharing and Allied Thrift Plans.....	203.00	
Report on Health Education.....	48.25	
Report on Trade Apprenticeship.....	118.25	
Report on Foremen Training.....	170.25	
Report on Executive Training.....	89.25	
Report on Skilled and Semi-Skilled Labor	94.50	
Report on Unskilled Labor and Americanization	177.25	
Report on Labor Turnover.....	99.00	
Report on Office Work Training.....	56.50	
Report on Psychological Tests & Rating Scales In Industry.....	65.25	
Report on Job Analysis.....	140.00	
Questionnaires, postage, etc.....	138.25	
		5,592.02

CONVENTION EXPENSES:

Printing	143.50	
Stenographic Report.....	494.10	
Badges	36.21	
		673.81

LOCAL CHAPTERS:

New York City.....	300.00	
Chicago	80.00	
Pittsburgh	80.00	
Western New York.....	30.00	
Southern New England.....	82.50	
Philadelphia dues refunded.....	32.50	
		540.00

DETAILS OF UNPAID DUES AND SUBSCRIPTIONS

CLASS "A"

Aetna Life Insurance Company.....	\$175.00	
Dow Chemical Company.....	100.00	
General Electric Company.....	100.00	
Hyatt Bearings Division.....	100.00	
Pittsburgh Railway Company.....	100.00	
		<hr/>
		575.00

CLASS "B"

M. W. Alexander.....	5.00	
S. W. Ashe	5.00	
A. B. Bruns.....	5.00	
R. E. Harrington.....	5.00	
E. C. Higgins	5.00	
E. B. Merriam	5.00	
G. H. Pfeif	5.00	
W. M. Skiff.....	5.00	
C. P. Steinmetz.....	5.00	
C. K. Tripp.....	5.00	
Westinghouse Elec. & Mfg. Co.....	5.00	
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		55.00

CLASS "C"

Andrew Deer.....	10.00
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PROCEEDINGS—1ST TO 8TH INCLUSIVE:

Russell Sage Foundation.....	10.00	
Department of Vocation Education (Seattle)	3.00	
Carnegie Institute of Technology.....	10.00	
Amos Tuck School.....	18.00	
Public Library—Boston.....	10.00	
Public Library—Los Angeles.....	10.00	
		<hr/>
		61.00

BOUND BULLETINS AND SUBSCRIPTIONS:

M. W. Haynes.....	2.00	
Sheffield Scientific School.....	2.00	
Department of Education.....	2.00	
Chicago University Library.....	5.00	
Board of Vocational Education—		
Oklahoma	2.00	
Alexander Hamilton Institute.....	3.00	
Princeton University.....	6.00	
Public Library—Boston.....	3.00	
Solvay Process Company.....	3.00	
Indiana University Library.....	5.50	
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		33.50

SPECIAL AND CONFIDENTIAL REPORTS:

Eastman Kodak Company.....	6.00	
Illinois Steel Company.....	2.00	
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		8.00
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		\$742.50

CLASSIFICATION OF THE ASSOCIATION'S EXPENDITURES

FROM MAY 16, 1920 TO MAY 14, 1921

Printing	\$14,347.12	60%
Office Salaries.....	4,886.00	21%
Postage	1,523.80	6%
Stationery	858.04	4%
Convention Expenses.....	673.81	3%
Local Chapters.....	540.00	2%
Incorporation	328.49	1%
Miscellaneous	639.86	3%
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TOTAL EXPENDITURES.....	\$23,797.12	

CLASSIFICATION OF THE ASSOCIATION'S RECEIPTS

FROM MAY 16, 1920 TO MAY 14, 1921

Dues Class "A" members.....	\$14,175.00	79½%
Dues Class "B" members.....	880.00	5%
Dues Class "C" members.....	1,430.00	8%
Sale of Proceedings.....	642.50	4%
Sale of Bound <i>Bulletins</i> and <i>Bulletin</i> Subscriptions	319.75	2%
Interest on Bank Deposit.....	243.15	1%
Sale of Special & Confidential Reports	148.00	½%
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TOTAL RECEIPTS.....	\$17,838.40	

CHAIRMAN COLE: You heard the report of the Managing Director and the report of the Treasurer. What is your pleasure?

MR. WM. W. KINCAID (Spirella Company, Inc.): I move that the report be received and filed.

(Motion seconded and carried.)

CHAIRMAN COLE: I shall now turn the meeting over to our President, Mr. W. W. Kincaid.

PRESIDENT'S ADDRESS

Mr. Chairman, and fellow-members of the Association: President Park insists upon calling himself Ex-President of this Association. Nevertheless he has given us a very concise and comprehensive report of the excellent work that the National Association of Corporation Training has completed during the past year. It has been, as he states, a year of climaxes, and the culmination of these issues is the result of many years of planning and work that now places a large responsibility upon the officers of our Association.

As your executive officer, elected at the recent organization meeting of the Board of Trustees, I feel most keenly, as do all other members of the newly elected Board, the obligations that we are assuming. We undertake to expand and develop the policy that has carried this Association through nine years of successful work. As a voluntary Association we are leaving behind us a record upon which associations many times our size can look back with justifiable pride. Our Association may not have distinguished itself by the size and extent of its membership, but I am not overstating the case when I say that the Association has distinguished itself for the quality and character of the work that it has done.

No other organization, that has attempted to touch the field of personnel relations in industry, has made the carefully studied surveys and produced such valuable and helpful information for the commerce and industry of America as has the National Association of Corporation Training.

Through the reports of our committee, the Monthly *Bulletin* and the Special and Confidential Reports, the member-companies of our Association have been kept in constant touch with the rapid and progressive development of all phases of the personnel problems and the solutions that are being worked out in the various activities of American industrial and commercial life.

The saying that a prophet is not without honor save in his own country and in his own house applies to the work of our Association. When in Great Britain last June I was invited to meet with the Executive Committee of the Association for the

advancement of Employes in Industry and Commerce. They did me the honor of holding their Executive Committee meeting at my company's plant at Letchworth. This association is based upon the same principles and its work is modeled after our Association. Members of this Executive Committee receive our literature through Class "C" membership in our Association. They expressed to me their sincere appreciation of our literature, and also expressed amazement at the amount and extent of the work that was being done by American industries in the personnel field as published in our *Bulletin* and reports.

While I know in Great Britain individual firms are quite as progressive and active along this line as any firms in America, I do believe that the movement in this field of studying and grasping conditions in personnel relations in industry has not taken on the same interest and has not been developed to the degree that it has in America, nor has as large a percentage of the industrial and commercial institutions of Great Britain shown the interest in this work that has been shown by industries of America.

We, gentlemen, can consider ourselves fortunate that we live upon the American continent where mighty strides are constantly being made toward bringing the employer and employe into closer and more efficient personnel relations.

Not only has Great Britain set up an association made up of its most progressive industrial and commercial organizations modeled after our Association, but reports have come to us recently that similar associations modeled after ours have been formed in France, Italy and Japan, which countries face the same problems we face, and they have come to the same conclusions to which the progressive industries of America represented in this Association have come; that is, if we are to meet and solve our industrial problems we must study them fundamentally and broadly and must introduce such educational and helpful methods as will enable us to meet these great issues with skill and intelligence.

Largely on account of the efforts put forth by the members of this Association, America stands in the van of leadership in the department of industrial education, particularly in that branch that we wish to designate as the field of personnel relations. As stated, all of this activity and accomplishment in the past, faulty though it may have been, is the foundation upon which we are to

build a larger and more enduring structure than our pioneer architects have yet dreamed. Some of us, I feel sure, have caught the vision and are ready for the forward movement. I trust that before this convention has closed every member-company here represented also will have caught the vision and will be ready to join us in the work of building here in America a sound, enduring organization for the promotion of industrial and commercial education.

As President Park has pointed out in his address, the Association has succeeded in securing a charter giving it broad powers in the educational field, the right to hold property and to receive endowments, all of which opens up the opportunity for permanence and the extension of our service. The Board of Trustees has a membership of thirty-one that is divided into three classes. Class I is made up of past Presidents of the Association, the President, First and Second Vice-Presidents, and the Managing Director, who were serving at the time the Association was incorporated and secured its Charter. Class II and Class III Trustees were elected as President Park has explained. Many of the trustees are from among the executives and personnel directors of our member-companies.

Any person should feel highly complimented at being selected to preside over such a fine body of men. Upon this occasion I wish to express my appreciation of the honor done me. In accepting this position of responsibility, I do so with the hope that I may be able to serve the Association and may add something to the common effort of the members of the Association and in some modest way help along the stupendous work which we have undertaken.

President Park has indicated in his address the great issues that I accept as outstanding and that will command our earnest support and cooperation throughout the coming year.

First, there is the problem of financing the Association upon a permanent basis so as to insure its future growth and development. This we hope can be started and carried to a point where a sufficient income to meet all of our current needs, and to house us in quarters of our own with a full staff and the full-time Managing Director may be available. The dues of one hundred dollars (\$100.00) per Class "A" member will not provide this. We must find other means for arranging for this permanent fund.

If no better method of financing can be suggested we can resort to the usual method adopted by other educational institutions and seek endowment funds from among our member-companies. At the organization meeting of our Board of Trustees a Finance Committee was appointed for the purpose of recommending a plan for financing our immediate and future needs. This Committee has already had one meeting and has made a preliminary report to our Board of Directors upon a plan that I believe contains much merit and will be finally adopted by the Board of Trustees. This preliminary plan contemplates temporary financing for the balance of this year, and the work of this Committee is to be continued until a plan for permanently financing the institution is adopted and put into actual operation.

A second step was taken at a meeting of our Board of Trustees in May appointing a Committee on Membership whose duties will be to lay out a policy for increasing the membership of the Association. It would seem that our Class "A" membership alone should be extended until we number not less than one thousand members. With the expansion of the Class "A" membership there should be a corresponding expansion of Class "B" and Class "C" making a total membership, of three thousand, but one thousand members in each class is a large undertaking for one year. Shall we take as a slogan for 1921 five hundred members in each class or a total of fifteen hundred?

New members are valuable to us only as they feel the need of and sympathize fully with us in the work that we are doing. They are of benefit to the Association only when they enter heartily into the spirit and the purposes for which the Association is formed, carry their full share of responsibility and cooperate with us in all of our undertakings. New members should join the Association not alone for what they can get out of it in return for their money, but because they see in our organization an opportunity to serve the industry and commerce of America. One of the largest benefits that any institution can receive from this Association is the indirect benefit that each company receives in helping to build up a spirit of mutual helpfulness and cooperation with others who are facing the same problems. Benefits conferred upon other companies through an institution such as ours are bound to be reflected, indirectly at least, in every member-company of our Association. Our work then is cumu-

lative and the more members we have, the greater will be the cumulative effect and likewise benefit to each member-company.

Third, as the problem of financing is solved, and the membership is increased, we shall be in a position to devote more time and attention to the improvement and expansion of our service. More time and money should and can be given to the preparation of our reports and proceedings of our convention. These can then be made more readily available as text books and works of reference. Our only excuse for not doing this has been the lack of time and funds to prepare suitable indexes and digests for use in class work. Many valuable suggestions have been made regarding the improvement of our literature, particularly our annual reports. With your cooperation and support in solving the first two problems we feel sure that our editorial staff and our Managing Director will be able to give us this larger service.

If, as has been suggested, we are able to place one or more secretaries in the field to carry out this larger program, we shall be able to give some form of individual service to our member-companies in the use of the reports and literature of the Association. This, I am sure, would be highly appreciated.

Fourth. One of the most important developments in our Association's work has been the need for the establishment of local chapters in the larger industrial centers of the United States. The work of expanding those chapters and of establishing others where the needs are very great can be successfully carried through as one of the chief activities of a field secretary.

The depressing business outlook at the present time should not and does not prevent a forward movement in the work of our Association. At no time in the history of the industrial development of America has the need for the service that we are prepared to give been so pressing as it is at the present time. Many firms that need our help do not know of the work that we are doing nor do they know that we can help them to solve the very problems that are most puzzling to them. This work can be done only by the aid of an efficient field secretary. It cannot be done by voluntary effort on the part of our member-companies no matter how great their loyalty and interest in the expansion of the Association. It is true that we have grown to our present size largely through this voluntary effort but we need now, according to my judgment, to rely upon the efforts of trained

servants, permanently in the employ of the Association. We can and will meet this great opportunity that confronts us at the present time.

There is another phase of our work that I think is basic and can be touched upon with profit at this time and that is the administration and adaptation of the principles and methods worked out in our reports to our respective institutions. This has given me, personally, much concern. Too often I hear the complaint that the literature of the Association is not adaptable to the particular plant or institution with which the person is connected. It is not intended to be so. It is intended mainly to be suggestive and helpful in pointing out the way to a solution. Too often I have felt that industrial concerns are seeking a cure-all method for their present ills. Methods and plans no matter how perfect cannot of themselves cure the ills of industry. We, who have given serious thought and study to administrative processes in industry, realize all too well that principles and methods at best are only the means to an end. The end sought can only be accomplished by the careful administration of method and the administration of method presupposes an administrator. The supreme thing, then, at which we are aiming is the production in our various plants and organizations of executives, major and minor as the situation demands, who are capable of applying the methods suggested in our literature. The greatest and most pressing demand upon us today, then, is to set up, either within or outside of our plants, but at all times in close contact with industrial processes, a training school for executives.

An executive imbued with the sense of the responsibility of his position will make a secondary method a success, but an employe without executive training and experience will defeat the best method and often side-step the fundamental principle on which a business is founded. When the four immediate problems confronting our Association, then, have been reasonably solved, we shall come to our fifth and largest problem, that of founding a training school for executives.

One great principle in which this executive must be instructed is in regard to the ethics of his profession. The high-class executive position in industry, to my mind, is the greatest profession of the twentieth century. Only as this executive is able to approach and understand the great truths underlying the principles

of personnel work, can he secure the confidence, loyalty and co-operation of the personnel of his organization. His people must believe in him. They must have confidence in his word. They must be made to feel that their problems will receive fair and equitable consideration in his hands. "An Utopian Dream" some may say, but I want to say to you that such executives exist already and the fruits of their work can be shown in the industrial life of our most progressive plants. We want more of them. Industry must have more of them. We stand in a position to help in the education and preparation for industry and throughout the world—the executive who can lead us out of present chaos into the atmosphere of loyalty and confidence where alone it is possible to realize contentment, happiness and prosperity in our industrial life. (Applause.)

THE PRESIDENT: I appoint as the Committee on Resolutions, Mr. A. F. Pickernell, Chairman, Miss Anne Durham, and Mr. C. E. Shaw.

Mr. Henderschott will now present the Report of the Committee on Profit-Sharing and Allied Thrift Plans.

PROFIT-SHARING AND ALLIED THRIFT PLANS

MONDAY AFTERNOON

PRESIDENT KINCAID, Presiding

MR. F. C. HENDERSCHOTT (New York Edison Company): Miss Baker, not being able to be here, asked me if I would present this report.

This is the second report on this subject. Last year the Committee under a different chairman, took up certain phases of profit-sharing and allied thrift plans, and the Committee this year took up additional phases. Profit-sharing and thrift have been very much stimulated during the last few years, perhaps in part by the intense effort of the Government and its agents to secure money with which to carry on the war, and to defray the necessary expenditures incidental to the war.

A recent survey, however, discloses that one of the most pronounced types of profit-sharing at the present time is profit-sharing through stock ownership. The movement has spread outside of the industrial organizations into the railroads and into commercial organizations, and there are a number of the larger representative business institutions of the country that have already prepared plans or are preparing plans, to stimulate ownership of stock on the part of their employes—that is, the more permanent employes. Another very prominent activity in this connection is the matter of employe insurance, as far as this survey discloses.

There are three periods in the life of every man, who depends upon his earning capacity for his living, that he dreads, and that everyone dependent upon him dreads, and these are sickness, sometimes resulting in death of the bread-winner, or some other member of the family, with its attendant additional expenses, as well as the grief; out of employment periods, and old age. These problems cannot, of course, be solved entirely

by profit-sharing plans or by thrift activities, but they can be solved in part through thrift activities.

The Committee this year took up the scope and purpose of the report, and methods of classification and definitions. It gives a number of different forms of profit-sharing, as a means of promoting thrift, and types of profit-sharing thrift plans also giving a list of the companies that have inaugurated these plans, and in Section III, discusses the value of bonus systems when considered as profit-sharing. While the report is brief, it is also complete. One thing the Committee has done this year, that I think has not been done previously, is an attempt to define what profit-sharing is.

COMMITTEE ON PROFIT-SHARING AND ALLIED THRIFT PLANS

MISS HARRIET F. BAKER, *Chairman*

THE NEW YORK EDISON COMPANY
New York, N. Y.

MR. D. R. DUSENBERRY

NEW YORK TELEPHONE COMPANY
New York, N. Y.

MR. P. W. TURNER

EASTMAN KODAK COMPANY
Rochester, N. Y.

MR. H. H. COREY

GEORGE A. HORMEL & COMPANY
Austin, Minn.

MRS. B. HENRY

ABRAHAM & STRAUS, INC.
Brooklyn, N. Y.

TOPICAL OUTLINE

REPORT ON PROFIT-SHARING AND ALLIED THRIFT PLANS

Section I—Introduction

Duties of Committee
Scope and Purpose of Report
Method and Classification
Definitions

Section II—Profit-Sharing Thrift Plans

PROFIT SHARING AS A MEANS OF PROMOTING THRIFT
TYPES OF PROFIT SHARING THRIFT PLANS

1. Profit Share in the form of Stock.
2. Profit Share in the form of Cash and Stock.
 - a. Harvard Knitting Mills.
 - b. Baker Manufacturing Company.
3. Profit Share in the form of Savings Fund.
 - a. Brooklyn Edison Company.
 - b. Harris Trust & Savings Bank, Chicago.
 - c. Sears, Roebuck & Company.
 - d. The Guardian Trust & Savings Bank, Toledo.
4. Profit Share in the form of Cash and Savings Fund.
 - a. The Connecticut Light & Power Company.
 - b. Samuel Cabot, Inc.
 - c. Sweet, Causey, Foster & Company.

Section III—The Value of Bonus Systems When Considered as Profit Sharing

Section IV—Stock Subscription Plans

Section V—Allied Thrift Plans

1. Thrift Certificates, Certificates of Participation, Certificates of Indebtedness.
2. Bonus given by Employer for Thrift by Employee.

3. Investing and Investment Companies.
4. Thrift Clubs, Societies, and Associations of Employees.
5. Deductions from pay deposited in Savings Bank.
6. Employees Savings Funds.
7. Thrift Bond Savings System.
8. Miscellaneous Thrift Plans.

Section VI—Conclusion

Profit-Sharing and Thrift Activities Not Necessarily Allied

Not only in its report, but in correspondence and in discussions during the convention, the 1920 Committee on Profit-sharing and Allied Thrift Activities commented with emphasis upon the fact that its researches had made clear a vital antagonism between profit-sharing in its primary significance and thrift activities as commonly understood. In other words, the subject assigned them to study and report upon, namely, Profit-Sharing and Allied Thrift Activities, fell naturally into two distinct and, from one point of view, irreconcilable divisions: on the one hand Profit-Sharing as it is not but should be comprehended, and on the other Thrift Activities with which the majority of real Profit-Sharing plans have no connection whatsoever. In pointing out this confusion in the use of terms, the 1920 Committee declared its intention of confining its report to the various forms of thrift promotion, incidentally suggesting that Profit-Sharing, as economically defined and experimented with, form the matter of the 1921 report. It is in response to that suggestion that the present report has been limited to a discussion of the term Profit-Sharing as it is variously understood.

The Standard Definition of Profit-Sharing

This committee has accepted the authorized definition of Profit-Sharing. According to Research Report No. 29 (June, 1920) of the National Industrial Conference Board, the International Cooperative Congress which met in Delft, Holland, in 1897, defines Profit-Sharing as "a form of remuneration of em-

ployes which is voluntary on the employer's part and is supplemental to the regular wage, and which distributes to a representative portion of the working force, for the purpose of securing its cooperation and loyalty, a percentage, fixed in advance, of the net profits of the enterprise." Within this definition, however, current usage has created at least a three-fold subdivision of the term, and it is the three representative phases of the system as actively in operation in the United States that this Committee has assumed the task of discussing.

Profit and Loss-Sharing

Fundamentally there can be no question but that any system of Profit-Sharing that does not involve liability of loss as well as participation in the profits of an enterprise is economically unsound. The scientific Profit-Sharing plan would be an equitable division of the actual profits earned or losses sustained between employers, employed, the stockholders, and the enterprise concerned.

Moreover, Profit-Sharing in this sense almost inevitably implies eventual management-sharing, or at least some plan including the representation of the employees to the extent of knowing, by access to the books if necessary, just what the profits of the concern are; for there can hardly be any legitimate escape from the conclusion that profit and loss sharing is uneconomic in either theory or practice so long as the worker has no control over either management or profits. Under present industrial conditions the sphere of the worker is practically confined to production. Profits, as a rule, are made and lost by management, and the average worker can do little either to increase them or prevent their disappearance. Even management is not omnipotent in this respect. Profits in great measure depend upon forces that the most astute executive cannot always foresee or sway, and any profit which might actually have been created by the workers through efficient production may be more than wiped out by a single unfortunate purchase of a large supply of raw material, for example. These and facts like them must become clear to labor.

Labor and Genuine Profit-Sharing

And furthermore, the worker must come to realize that if he wants a fair percentage, mutually agreed upon in advance, of the actual profits of business, he must stand ready to assume his share of the hazards, not only in a subjective but also in an affirmative way by actually putting up money to meet losses precisely as ownership interests are called upon to do. Beyond the shadow of a doubt, when the workers take the interest of partners they will be treated like partners. Instead of employees, they will have become responsible members of the firm.

The failure of the profit and loss-sharing plan to function more extensively hinges upon what is possibly the greatest problem of modern industry; the question of the fitness and willingness of the employee to assume financial responsibility. George W. Perkins, probably the most influential promoter of Profit-Sharing of our time, declared: "The profit-sharing that I believe in is the kind that makes partners of employees; the sort of profit-sharing that is practiced between partners in business." But so long as one partner shows himself both unfit and unwilling to shoulder any of the risks and self-sacrifices involved in any profit-producing process, how can either the equity or the wisdom of Profit-Sharing in the primary meaning of the term be logically or profitably discussed.

At the last annual meeting of textile manufacturers of the Middle West the following testimony was given regarding the attitude of employees toward accepting even the inevitable variations in profits. One member said: "Where bonuses are paid it is found that employees shortly figure them as a part of their wages, and any effort to cut off the bonus when business is dull will precipitate trouble, and nothing less than a strike. The textile workers are no worse than workers in other industries. They cannot help but feel that bonuses are a part of their salaries and that they are entitled to them. Any effort to reduce the bonus is taken as a cut in wages. They are willing to shart profits with the companies, but not losses. If earnings are not sufficient to pay dividends on stock and bonuses, the dividends must be passed and the bonuses paid, and if there are not sufficient earnings to even pay current bills, the employees' attitude is that the com-

pany should borrow money and 'go broke,' but should pay the bonus. If the company takes the other alternative and closes down its mill due to dull business, there is a lot of howling, but still the bonus is expected when business starts again."

Another textile man said: "We have a bonus arrangement whereby we pay all of our office people and mill workers a bonus of just twice the dividend on the common stock. In 1918 we had a good year and employes received a twenty per cent bonus, while stockholders received a ten per cent dividend. Last year things were not so good, and we nearly had a strike on our hands because the bonus was not as big as in 1918. Employes reach a point where they figure in the bonus as a part of their wages, and figure that wages are cut if the mill doesn't make enough money to pay the bonus."

Another operator stated that in 1918 he paid a bonus of twenty per cent, while in 1919 a fourteen per cent bonus was all that the mill could afford to pay on the business done, but that it practically pocketed a loss on the bonus, and paid the twenty per cent of the previous year rather than have a strike, reduced production, dissatisfied workers and steady trouble.

The consensus of opinion was that it is a bad idea to establish bonus systems, due to the fact that once established, it is a hard matter to get away from them. "Big people with unlimited means, who are making tremendous profits in their business, can afford to get away with such plans, but it was held that they will eventually come to grief over the plan if there is a big slump, and they fail to make money. In this connection Henry Ford was referred to as one of the men who had been able to work out many experiments, due to the fact that he has funds to back experiments and due to the fact that there is a big profit in his business.

Thrift, Risk and Control

But present conditions are one thing and future possibilities are another, and in this connection the Committee asks to be permitted to quote from a brochure entitled "Thrift," prepared by Harry J. Lewis, Consulting Engineering, for the employe stockholders of the Pittsburgh Coal Company.

"The Socialists contend that capital has taken control of the

tools of production and exacts from labor an unfair proportion of its product in the form of profits. It may be that capital has at times exacted too much of the product of labor; this is simply the abuse of a privilege and any privilege is likely to be abused, but as long as the bulk of labor remains spendthrift and shirks the responsibility of management, profit and loss, it would seem that the shoe might be on the other foot and that the savers are compelled to furnish labor with tools in order that production may go on and provide for the needs of spender and saver alike.

"The railroads may be used as a basis for study as to how this works out in practice. There are about 2,000,000 railroad employes and the present owners of the railroads value their properties at somewhere between \$18,000,000,000 and \$22,000,000,000. The greater amount stated above is intended to represent the market value of all obligations while the lesser amount is intended to take account of a proper deduction for cases of duplicate obligations issued against the same physical property and where the income on the underlying obligations is to be used to pay a return on the other one. Admitting that these valuations are somewhere near right, we have from eighteen to twenty-two billion dollars worth of property to furnish employment for two million people or from \$9,000 to \$11,000 apiece. An actual value of this kind means that some one or a group of workers has actually produced it and that it has been saved by the self-denial of individuals or has been taken from the workers in the form of profits and saved for them and invested in the property. Even when taken in the form of profits, it represents the involuntary self-denial of the workers. If the worker who takes employment with a railroad could put in his share of the investment and take stock for it, he would get his wages according to his value in the labor market and through his stock he would receive his share of the profits and also share in such losses as might be incurred. In this way and under the present system, he would receive all that can be legitimately taken from any going business, and, therefore, he would be receiving the full social value of his labor and the savings as nearly as it can be determined. By this method, he would also share in the

losses which occur in any business by combinations of shifting demand, bad management and changes in the cost of production or service and thus become familiar with the hazards of business. When a loss was suffered, the return on his investment would be reduced or might disappear altogether for a time, but his savings would be in a real going business, helping to furnish him with employment, likely to come back in value with a return of prosperity and much better on the average than the so-called investments now offered to the workers by people who never intend that they shall realize anything. . . .

"Now if the more highly paid railroad workers insist on spending all of their income and will not save to invest in the property which is necessary to provide them with work, somewhat as the stockholders divert the surplus earnings, they both practically compel some one else to save and invest for them in order that they may be provided with the tools of their occupation, and ownership and control seem to go with the risks of investment. Any fair policy which would stabilize values of railroad securities would seem to be to the mutual advantage of the employee and investor as well as the road itself.

"If a railroad conductor invests in a motor truck and hires a driver to run it for him, and the driver is careless and unreliable, there would be no doubt in the owner's mind about his right to discharge the driver. The relation of the conductor to his train is more complicated, but the underlying principle seems to be about the same. On the other hand, suppose that the conductor hires a driver who owns his own truck, and the conductor pays him a fixed sum for transporting his goods. By this act, the driver-owner takes on the risk of profit and loss, the responsibility for safe delivery and for keeping his truck free from injury. The whole motive of the worker changes as soon as he invests his own savings in the tools or equipment of his occupation. The risk of loss and the compensating hope of profit is in the owner and not the employe, and, therefore, the owner insists on the right to stop losses which result from the carelessness or the incapability of the employe. As an offset to this, no intelligent owner can afford to neglect or fail to reward faithful service from an employe in order to encourage him to further effort.

"If every railroad worker had an average investment of \$11,000 in his railroad, he would own about one box car or a quarter of a passenger car or an eighth of a locomotive or a fifth to a sixth of a mile of roadbed; just to give some sort of measure of how far his money would go under present conditions. If a wreck destroyed cars, locomotives and roadbed, his chances of a dividend would be reduced. Is it probable that so many cars would go over the dump or so much good material would be scattered along the road and lost if each employe was a part owner in the property? The fact is that labor can control any industry right now under the present rules of the game just as soon as it is willing to deny and save enough to purchase a majority of the voting stock, provided that the workers can stick together and furnish a capable management. Control, and risk of loss and profit, appear to go together naturally in any business or industry, and it seems quite possible that if control was given to the workers without a share in the risk and responsibility, their present methods of handling their own affairs might soon wreck the whole enterprise. . . .

"The complaints as to domination of labor by capital can be entirely cured by economic action under present laws and customs if all of the workers themselves will save and invest in the enterprise from which they derive employment. The ultimate control of any enterprise is likely to vest in those whose self-denial and consequent savings are subject to the hazards of loss and gain and who possess sufficient ability to keep the business on a sound working basis. Political action might change this temporarily as regards existing industries, but the starting of any new industry will require the use of other accumulated savings or self-denial, and this will in turn demand control. The mind of the worker who saves and invests, works along about the same lines as the mind of the so-called capitalist, and, in fact, by the action of saving and investment he becomes a capitalist. Sometimes, in fact, the worker who comes to be an investor, shows more good sound sense than the man who has never served in the ranks of the industrial army. . . .

"It is possible for a successful going industry to be finally owned and controlled by its employes, if they will save in prosperous times and invest their savings in its shares. They cannot

take it over at once in this way, but they can gradually absorb a majority of its stock, which is all that is necessary for control. The workers can play the game according to the present rules and buy the common stock, which is generally issued as a bonus to the preferred stock and which at first has no value except its voting power, share for share, with the preferred.

"About 1904 the \$503,000,000 face value of the common stock of United States Steel was nominally sold between two and three times over, at from $8\frac{3}{4}$ to 12, so that control could have been and probably was bought for less than \$60,000,000 or something like one-fifteenth of the actual value of the property at that time. Fifty thousand employees could have taken control at this time by investing \$12,000 apiece, but they would have been obliged to wait for several years before receiving any legitimate return on their investment.

"About one big coup of this kind by the workers might make the framers of corporations much more wary and help to cure these big issues of stock, over and above real values in the business, which are used to absorb unearned profits without shoving up the dividend rate so high as to cause suspicion. In fact, it might tend to stabilize business by keeping stock issues closer to the actual value of the investment. When this was accomplished, the workers would likely have to pay from \$2,000 to \$6,000 apiece to secure a majority of the stock in their own industry. This cannot be done in a year, but can be done by persistent saving, and then there will be no question about the right of the workers to control industry under the present rules of the game. A worker who has his savings invested in the business which supports him is going to be a very conservative force as soon as he finds that there are losses from inefficiency and waste along with the profits he has heard so much about.

"The temptation to spend a cash bonus has been very strong during the flush times of the past few years, and it is very doubtful whether it has paid for itself in betterment or increase of product. It does not seem to reach the root of the matter at all as the money is simply spent, in most cases, forming more expensive habits which have nothing to back them up. The result of this is discontent.

"The creation of a direct and permanent interest in the work-

man in his own industry and allowing him to share the hazard of profit and loss, with full knowledge of the causes, offers a field which goes pretty well back to the primal instincts of the race and which may yield considerable results. Some experiments, already made along these lines, appear to be producing good results, and, if the basis is right, they are likely to gather force and following. In working out the plans, we must keep the basic instincts of humanity always in mind and not allow ourselves to be confused by the changing surface symptoms which are only the reactions of these age-old instincts to shifting environments. Each case will be a good deal of a law to itself and probably need more or less tinkering, as no final solution is likely to be found. A final solution means loss of liberty, and we are not looking for that."

In the true sense of the term there are not half a dozen Profit and Loss-Sharing plans in the United States, and such plans as these are problematically successful, except when applied exclusively to managers, heads of departments, salesmen, foremen or small groups of high grade workers. The chances of success of such plans are, of course, practically nil when open to large bodies of low grade workmen.

The two classic examples of the true profit-sharing plan, in other words, the profit and loss-sharing plan are those of the A. W. Burritt Company and the Dennison Company, copies of which will be mailed to any inquirer upon request.

Percentages of Profit Determined in Advance

While it is true that a strict conformity to economic fact makes the right to a share in profits dependent upon corresponding readiness to shoulder losses when necessary, popular conception, as has already been indicated, has assigned to the term profit-sharing a secondary significance which is so widely accepted as practically to obscure the truer meaning. According to this secondary definition, profit-sharing consists in setting aside for equitable distribution among employes a percentage of the profits, fixed in advance, but with no provision for loss-sharing on the part of the worker. In view of contemporary labor conditions, the probabilities of permanent success of this

form of profit-sharing over profit-and-loss-sharing can safely be assumed. However, here too there can scarcely be any dissent from the opinion that the chances of success are in direct ratio to the grade of the workers included. Moreover, statistics would seem to prove that profit-sharing plans, when divorced from any element of thrift, are far less likely to survive, and the lower the grade of the employe the less likely he is to respond to any appeal to save and the more certain, other things being equal, to find incomprehensible and to resent any variation in his dividend.

It is quite within the bounds of possibility, however, that percentage of profits plans, especially where linked with the thrift ideal, may prove the intermediate step between an arbitrary prosperity sharing and profit and loss or management sharing, for in some cases this species of profit-sharing plan is closely connected with some organization for giving employes some share in the management of the industry. The management of one plant that has such a plan is quoted as saying:

"Its vital factor is that it followed and grew out of management sharing. I became convinced that no general results could be looked for from employes' profit-sharing except where there was a fairly well-grounded plan of employes' management sharing; and we here would expect failure from our recent adventure into the fields of profit-sharing except for the influence of the works council in selling continuously the profit-sharing plan to the employes and in giving them such a share in management that, as a group, they can in the course of time, have a very real effect on our profits account."

Among the plans which illustrate the working out of the percentage of profits without loss-sharing payments—either by way of cash or stock or both—are those of the

American Light and Traction Company
 American Manufacturing Concern
 The American Rolling Mill Company
 Ballard and Ballard Company
 Barcalo Manufacturing Company
 Boston Consolidated Gas Company
 Bourne Mills

Benoit System

Brooklyn Edison Co., Inc.

R. A. Bartley

Charles Warner Company

Eastman Kodak Company

Empire Trust Company

Endicott-Johnson Corporation

Farr Alpaca Company

Frost Gear and Forge Company

General Asphalt Company

General Ice Delivery Company

Guaranty Trust Co. of New York

Houghton Mifflin Company

The Hub

International Harvester Company

The Keystone Driller Company

Kutztown Foundry and Machine Company

National Bank of Commerce in St. Louis

National Cash Register Company

New Albany Veneering Company

Newton & Watertown Gas Light Company

Noblesville Heat, Light and Power Company

N. O. Nelson Manufacturing Company

Orton & Steinbrenner Company

The Outlook Company

Peninsular Paper Company

The Pittsburgh Trust Company

The Rosenbaum Company

R. F. Simmons Company

Simplex Wire Cable Company

Stambaugh-Thompson Company

Bernhard Stern & Sons

Starrs Mica Company

Studebaker Corporation

Sweet, Causey, Foster & Company

The W. S. Taylor Company

Union Oil Company of California

Union Savings Bank & Trust Company

Warner Hardware Company
Wayne Knitting Mills
Wildman Magazine & News Service

Profit-Distribution or Prosperity Sharing

The third form of profit-sharing can be called so by courtesy only since it bears only the remotest relationship to the other two forms. In so far as the awards made by virtue of it are withdrawn from profits, the various forms of special distribution included within it may be called profit-sharing. In essence, however, this third form implies nothing more nor less than a distribution of an arbitrarily fixed amount having no definite relation to actual profits. The terms "profit-distribution" and "prosperity-sharing" have been coined of recent years to distinguish this method of allotting to employes some proportion of the profits of a business in order to distinguish it from the more bona fide forms. It is, however, the form most generally found in operation and has many advocates as peculiarly adapted to present industrial conditions because, together with a number of subsidiary advantages, it permits the average employe—to date irresponsible, unthrifty, illogical and bound up in the interests of the moment—to share in the prosperity of the concern for which he works without his being committed in any way to risks of losses which he cannot afford, due to failure of administration and other causes over which he has no control.

Among the common forms of profit-distribution should be enumerated the following:

1. Cash payments—determined arbitrarily by the employer at the end of any business period, usually the year.
2. Relief funds—sickness, accident or death, retirement pensions—maintained wholly or in part by the employer.
3. Liberal interest to employes on savings left with employer.
4. Rewards for prompt attendance, length of service, efficient work, etc.
5. Life insurance paid by the employer and usually based on term of service or efficiency.

6. Production bonuses.
7. Loans to employes without interest or at a nominal rate.
8. Discounts on commodities sold to employes.
9. Holiday bonuses—as Christmas and Thanksgiving gifts.
10. Prizes for shop suggestions, home improvements, etc., such as gardens.
11. Free transportation.
12. Meals supplied to employes free or at nominal prices.
13. Free medical care, treatment at hospitals, sanatoriums, etc.
14. Country clubs, vacation funds and camps wholly or in part subsidized by the company.

Non-Thrift Profit-Sharing Plans

As the previous Committee has pointed out, with the exception of the stock holding savings and loan, insurance, and co-operative buying plans, the majority of profit-distribution plans do nothing to promote thrift. In fact, the inculcation of the thrift habit is but a minor economic motive among the reasons inspiring industrial concerns to inaugurate a system of prosperity sharing. The desire to admit the employe to some degree of partnership in profits; the minimizing of unrest; the elimination of waste; the increase of efficiency; the reduction of turnover; the encouragement of loyalty, cooperation, stability and length of service—these are the principal motives for the inception and operation of such schemes. In most instances the employe is at liberty to dispose of his individual share in any manner which may happen to appeal to him; and almost as many companies as have paid bonuses in cash have found that their employes are only too ready to avail themselves of this resource to lay off or take a vacation and go somewhere for as long as the money lasted.

"After some consideration," writes the head of one large firm, "we adopted a plan of developing the habit of thrift among the employes by making their participation in the profits of the company dependent upon some actual saving on their part extending over a period of several years. The results from this

change were good." Moreover, it might be well in this connection to reiterate the conclusion of the Committee for 1920 that the chances of survival of plans dictated by a desire to develop the thrift habit would appear to be more favorable than those inspired by other motives alone; in support of which conclusion the Committee quotes Mr. Perkins to the effect that "any partnership or any profit-sharing plan that divided up the profits and withdrew them in cash at the end of every year could not last very long."

Reasons for Failure

But the failure of profit-sharing plans to realize all that has been expected of them cannot of course be attributed to the absence of thrift features alone. Other causes which have been enumerated are—from the standpoint of the worker:

1. Using profit-sharing as a device to make workers content with low wages.
2. The indefiniteness of the amounts and the remoteness of the payments which make but a minimum appeal to the wage-earner.
3. Treating the matter as an affair of charity, not business.
4. Installing it as a weapon against trades unions.
5. Applying it to large bodies of rank and file workers.
6. Giving too small a proportion of profits to interest employees.
7. Using it as a substitute for personal contact and cooperation.
8. Starting it without a foundation of good-will and confidence.
9. Making it too legal and complex.

On the other hand, many employers complain (to quote from the recent report on Profit-Sharing issued by the National Civic Federation) that "The efforts of the employers were not appreciated by the men; they seemed to prefer their total earnings in fixed wages with no variable element; they were suspicious of the employers' motives; they insisted upon joining unions and presenting demands in spite of the employers' efforts to give

them a share in the extra gains of the business; when stock was sold to employes upon favorable terms they would dispose of it at a profit when the value rose, and so got the habit of watching the stock market. When the profit distribution was large, the employes learned to expect a similar bonanza every year and were disgruntled if they did not get it, to say nothing of their discontent if conditions forbade any extra payment at all; and all schemes of this sort are necessarily complicated and hard to understand, so that the workers, especially of the less intelligent grades, are not easily convinced that the system really benefits them and isn't merely a device to withhold a part of what they might otherwise demand and get."

Arguments in Favor of Profit-Sharing Plans

With all the obstacles, however, to its successful operation, profit-sharing gives every evidence of having its place in the modern industrial scheme. In general, the advocates of profit-sharing emphasize the following arguments: It promotes more continuous service, reduces cost of production, secures more regular attendance at work, builds up confidence and creates a spirit of cooperation, gets rid of rolling stones, encourages home building, enables a company to keep its employes during rush seasons, keeps down expenses, induces salesmen as well as others interested to work harder, promotes efficiency, interest and loyalty, and increases the profits of the business.

Incidence of Profit-Sharing

The British Ministry of Labor, in a recent report on profit-sharing, relates growth of interest in the idea to growth of profits. At such times there seems to be a recurring tendency on the part of employes to resort to the expedient of profit-sharing as a possible remedy for unrest. Periods of bad employment, on the other hand, are generally also periods of low profits, which are, of course, not favorable to the introduction of profit-sharing plans.

MR. J. E. BANKS (American Bridge Company) : I read over the report and gained the impression that we must have some kind of profit-sharing that will not involve the employe in sharing a loss,—by the creation of a contingent fund, or some such scheme. That problem must be solved, because if we hold out to the new employes, say in an off year, a chance of sharing in a loss, we certainly would not make the proposal and the company back of it popular with the employes. I think that such a plan has not yet been devised. It might be something for the Committee to consider, next year, finding out what has been done in England, in the countries of the Continent, and in this country.

OFFICE WORK TRAINING

MONDAY AFTERNOON

PRESIDENT KINCAID, Presiding

MANAGING DIRECTOR HENDERSCHOTT: I shall present the report of the Committee on Office Work Training.

This Committee has been in existence since 1913, with the exception of the year 1918, when no report was made.

This Committee has made a résumé of the reports of previous Committees on the same subject, that will be found in the Annual Volumes of the Proceedings, of which each Class "A" member has a complete set, and making this résumé, that is fairly complete, the Committee gives the following introduction: "Page 82: The following report has been prepared according to the spirit rather than the letter of the directions presented to the Committee on Office Work Training."

COMMITTEE ON OFFICE WORK TRAINING

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DIGEST OF THE WORK OF PREVIOUS COMMITTEES ON OFFICE WORK SCHOOLS

Resume of the Work of the Committee on Office Work Schools for 1913

- I. Relation between efficient office routine and the payroll.
- II. Relation between school and company.
- III. Need of standardized office operations.
- IV. The work of the Peirce Commercial School, Philadelphia.

Resume of the Work of the Committee on Office Work Schools for 1914

- I. Value of office work schools.
- II. The work of the office work school of the National Cloak and Suit Company.
- III. Problem of training in small offices.
- IV. Education work of Haines, Jones & Cadbury, Philadelphia.
- V. Training railroad office employees.
- VI. Corporation versus other schools.
- VII. Aims of the New York School of Commerce.
- VIII. Results of two questionnaires forwarded to Class "A" and Class "C" members, respectively.

Resume of the Work of the Committee on Office Work Schools for 1915

- I. Outline for a correspondence manual.
- II. Outline for a filing manual.
- III. Outline of a manual for stenographers, phonograph operators and typists.
- IV. Bibliography of books on office practice.
- V. Vital corporation school problems.
 - (a) Selection of the teacher.
 - (b) Lesson routine.
 - (c) Selection of pupils.
 - (d) The standard clerk.

Resume of the Work of the Committee on Office Work Schools for 1916

I. Outline for organization of an Office Work School.

- (a) Scope.
- (b) Objects.
- (c) Instruction plan.
- (d) Selection of teachers.
- (e) Costs.
- (f) Personnel.
- (g) Relations with other departments.
- (h) Equipment.
- (i) School management.

II. Outline for Correspondence Manual.

- (a) The importance of correspondent's position.
- (b) General information.
 - (1) Style book of catalogue.
 - (2) Information schedule for correspondents.
- (c) The construction of a good business letter.
- (d) Knowledge of words.
- (e) Words, expression, etc., not to be used.
- (f) Repetition distinguished from emphasis.
- (g) Length of letters.
- (h) Inquiries—preparation for dictation.
- (i) Opening paragraph.
- (j) Concluding paragraph.
- (k) Adjustment mail—complaints.
- (l) Follow-up letters.
- (m) Conclusion — thought — imagination — concentration
and effort—the foundation for success.

III. Outline for Filing Manual.

- (a) Importance of file clerk's position.
- (b) Filing points in general.
 - (1) File cabinets.
 - (2) Methods.
 - (3) Systems.
- (c) Points for the beginner.
 - (1) Filing equipment.
 - (2) Filing systems.

- (d) Essentials for accurate filing.
- (e) Aids to efficiency.
- (f) Follow-up system.
- (g) Charge systems.
- (h) Cross referencing.
- (i) Lost papers.
- (j) Guiding.
- (k) Duties of clerks assigned to filing.

IV. Outline of Manual for Stenographers, Phonograph Operators and Typists.

- (a) Importance of work and qualities essential to success.
- (b) General rules.
 - (1) Attitude toward work.
 - (2) Care of machines.
 - (3) Office and routine rules.
- (c) Stationery.
- (d) Interpretation of dictation.
- (e) Dictation.
- (f) Identifying letters.
- (g) Carbon copies.
- (h) Carbon paper.
- (i) Order of answering—letters to have preference.
- (j) Helps to stenographers.
 - (1) Inserting carbon.
 - (2) Erasing.
 - (3) Underscoring.
- (k) Dating.
- (l) Headings.
- (m) Recipient's name and address.
- (n) Estimating the length of a letter.
- (o) Salutation.
- (p) Paragraphs and margins.
- (q) Two-page letters.
- (r) Complimentary closings.
- (s) Identifying dictator—transcriber.
- (t) Telegrams.
- (u) How to pin and deliver transcribed letters.
- (v) Envelopes.

- (w) Office detail.
 - (x) Details for phonograph operator.
 - (1) Description of phonograph.
 - (2) Phonograph slip.
 - (3) Handling of finished cylinders.
 - (4) Unfinished cylinders.
 - (y) Details for fill-in typists.
 - (1) Sample copy letter.
 - (2) The multigraphed letter.
 - (3) Addressing envelopes.
 - (z) General rules for capitalization, syllabication and punctuation.
 - (o) Use of the dictionary.
- V. Outline for complaint manual.
- (a) Instructions for complaint adjusters.
 - (b) Complaints classified.
 - (c) Sources of information.
 - (d) Adjusting.
 - (e) Forms of adjustment.
- VI. Outline of manual for office boys and messengers.
- (a) General instructions.
 - (b) Organization.
 - (c) Courtesy.
 - (d) General conduct.
 - (e) Personal appearance.
 - (f) Punctuality.
 - (g) Accuracy.
 - (h) Economy.
 - (i) Cooperation and team work.
 - (j) Observation.
 - (k) Attention.
 - (l) Concentration.
 - (m) Answering the telephone.
 - (n) Visitors.
 - (o) "Don'ts" for office boys and messengers.
- VII. Bibliography.
- (a) Collateral reading for office practice (pupils).
 - (b) Collateral reading for teachers of office practice.

Resume of the Work of the Committee on Office Work Training for 1917

- I. Résumé of 1916 report.
 - II. Outline for teaching employes in offices of average size.
 - III. Results of a questionnaire.
 - IV. Bibliography.
 - (a) Business English.
 - (b) Correspondents.
 - (c) Office methods.
 - (d) Miscellaneous.
- (Note) No Convention was held in 1918 and no report on Office Work Training was compiled.

Resume of the Work of the Committee on Office Work Training for 1919

- I. Selling the office work training school to industry.
 - (a) Arguments for an office work school.
- II. Cost and saving of an office work school.
- III. Survey preliminary to successful organization of an office work school.
- IV. Weeding out undesirables.
 - (a) Women and office work.
- V. Effect of increasing invention and application of mechanical devices on office training.
- VI. Maintaining relations with outside training sources.
- VII. Training of executives.
- VIII. Organizations maintaining successful office work schools.
- IX. Bibliography.

Resume of the Work of the Committee on Office Work Training for 1920

- I. Questionnaire submitted to the leading industrial enterprises of the country for the purpose of acquiring information in regard to methods and results of organized office work training.
- II. Definition of customary training methods.
- III. Question of instruction on company time.
- IV. Instructors.
- V. Typical examples of organized office work training.

INTRODUCTION

The following report has been prepared according to the spirit rather than the letter of the directions presented to the Committee on Office Work Training. Those directions read:

"Study the problems of training workers in small offices and departments and suggest types of training adapted to them."

As a matter of record, paucity of existing data regarding the training problems of small offices as distinguished from large has driven the committee to concentrate its efforts on evolving a more or less satisfactory outline of a system of training of very general application, suitable, insofar as any one system can be applicable, to practically any sort of office.

There is undoubtedly a demand for a brief, flexible outline of basic office routine instruction to serve on the one hand as first aid to a company making its first tentative efforts toward training its office employes, and on the other hand as a guide to what has already been accomplished along such lines. In fact, the Managing Director of the National Association of Corporation Training has been repeatedly importuned to devise a general course of office work training which, with the modifications dictated by local conditions, might be profitably included among the personnel activities of the various member companies.

The difficulties in the way of the compilation of such an outline, useful as it might prove, are practically insurmountable at the present time, either by an individual or an entire sub-committee of the association; but the instructions handed to the Committee on Office Work Training for the year 1921 call for something in the way of a formulation of office work training methods which might be accepted as a practicable standard. The committee has therefore evolved a species of composite of the course of training in office work that might come into being if the outstanding and reputedly successful features of the various systems, which have been founded by some seventy-two industrial concerns, were to be combined into a more or less smoothly working unit, and offers it as, at any rate, a possible working basis, if not an ideal, of what an office work training school might represent in the way of an opportunity for the development or fulfillment of possibilities and talents latent or suppressed in the

average office employe. Of course the failure of this or any other general plan to fit into any highly specialized form of industry is assumed as a matter of course.

A COMPOSITE OFFICE WORK TRAINING PLAN

In the first place, and bearing existing systems in mind, the ideally organized office work training plan would demand:

Quarters—The provision of quarters especially set aside for training purposes goes without saying. The attempt to fit classroom work into other programs of work calling for the use of a certain room or rooms is fatal to a sense of either continuity of class routine or permanence. The room or rooms should not only be lighted and ventilated with especial care, since foul air and eye strain are sufficient to bar any student's progress, but likewise equipped with the customary adjuncts of the school room, blackboards, tables, desks, or at least seats with accommodation for writing. Pens, pencils, paper and ink should be provided.

Library—The efficiency of any company training system is always immeasurably enhanced by the maintenance in connection with it of a library and reading room. Standard reference works should be provided with periodicals which would bring to the attention of the employes current events and the industrial progress of the age generally. Text books or manuals used in classes may be furnished to the students through it. The librarian can keep on file catalogues, card records and reading courses, and prepare bulletins illustrative of literature covering current events. It can also be the centre of distribution for the various publications pertaining to all departments of the company. Company libraries can easily be made branches of the local public libraries with the privilege of supplying books from it to the company's employes on the same terms as they are withdrawn by individuals at the public library itself.

Training on Company Time—We defer to the preponderance of opinion in favor of devoting company time to the training of office employes expressed by organizations maintaining office work training. It is generally held by the majority of

directors of such training that the natural fatigue following the day's work very largely nullifies even the most earnest efforts to concentrate on further mental self-development.

Instructors—Following again the preponderance of evidence submitted, the ideal training school would be conducted by members of the force, selected by reason of their special fitness for teaching and preferably with some outside normal school training or its equivalent. As a rule, the experience of companies would appear to indicate that greater success attends upon instruction by an "inside" man than by a teacher introduced from without, no matter what his training or how expert he may be in his field. Moreover, success in such training would also appear to be advanced by placing all the educational work of a company in the hands of one man for coordination and administration. The ideal educational department would undoubtedly be so organized as to bring under one head all the educational activities of the company with a director of education in charge of these activities of which the office work school would form but one.

Duties of Instructors—An instructor should invariably be present during school work. Other responsibilities of the educational staff might well include:

- a. Stimulating interest in educational and business development.
- b. Training and development of the workers.
- c. Preparation of department manuals.
- d. Bulletin board messages.
- e. Follow-up on employe service and scholarship records.
- f. Individual assistance.
- g. Specialized health instruction.
- h. Library supervision.
- i. Selection of current magazine articles for distribution.
- j. Preparation of company handbook.
- k. Literary and educational clubs.
- l. Cooperation with local educational organizations.
- m. Cooperation with executives in familiarizing employes with the aims and purposes of each bureau.
- n. Personal conferences.

- o. Special courses.
- p. Musical features.
- q. Conduct of suggestion box.
- r. Give information to employes regarding desirable lectures and courses offered in the neighborhood and to advise them in their selection.
- s. Bring to attention of employes timely articles and reference works bearing on their various interests.

Students—The students admitted to the ideal office work training school will be preferably those and only those who have an education equivalent to graduation from a standard high school, since only applicants with such an advantage will have been accepted for office work by the ideal employment department.

Office Work Manuals—Every company which would install the standard office work training plan should provide each employe with a manual containing a complete synopsis of the history, policies and organization of the company, knowledge of which is imperative for the proper performance of the employe's duties. This manual could well be so compiled as to furnish the basis for all necessary theoretical or text book training. Of course these manuals would require fairly frequent revision.

Hours—One company demands of its office workers an attendance upon its various training activities of four hours a week for four years, or an equivalent for such attendance.

Coordination—Every effort should be made to coordinate the courses of study with the student's actual work in the office. Wherever possible, lessons should be illustrated by actual work. Theory and practice should proceed together. One method provides class work for the employes in training in the forenoon of each day and actual experience in the offices every afternoon. The study program is confined to the forenoons. In the afternoons the students are sent for two or three week periods to the different offices for practical experience, so that when a vacancy occurs in any office it is usually possible to recommend a student who has had some experience in that office. This plan also provides a most accessible source of emergency office help. Dur-

ing this training period students receive about half pay. They thus learn by doing, and earn while learning.

Attendance—Attendance should be compulsory, although a certain amount of discretion must of necessity be left with department heads. Regularity and punctuality should be insisted upon.

Ratings—Ratings serve both as a spur and an intangible sort of reward for good work. Moreover, they help to impress upon the employe the sense of school organization not always easy to preserve in a company school. Permanent educational records which reflect the progress and development of students are likewise advisable. Periodical examinations are indispensable and a supplementary course should be provided for students who do not achieve satisfactory grades. Records of class attendance and scholarship also should be carefully kept.

Diplomas and Prizes—The award of diplomas and prizes has been proved well worth while in stimulating ambition and persistence of interest and effort in the direction of educational and business development.

Courses

The courses of training of the standard office work school might well include the following:

1. Americanization.
2. Supplementary grammar school work.
3. Classes for junior clerks, messengers, pages, office boys.
4. Instruction in company policy and procedure designed especially for information clerks.
5. Efficient telephoning.
6. Filing.
7. Billing.
8. Specialized training of typists, stenographers and dictaphone operators.
9. Business correspondence.
10. Figuring machine work.
11. Advanced classes:

Training in the more highly specialized departments of the industry concerned.

12. Use of library.
13. Practical hygiene.

Americanization—It is true that in connection with office work training the first step toward Americanization, namely, the teaching of the elements of English, is made unnecessary by the fact that non-English speaking applicants are seldom employed for office work. But the true American and the man who can speak and write intelligible English are by no means interchangeable terms. The ideal office work school can scarcely afford to neglect its opportunity to set aside a certain portion of time to the preparation of its students for a more substantial citizenship through courses of reading and discussion on our national government, its ideals, aims and problems. If the office force by any chance includes aliens, a preparatory course for citizenship might be provided.

Supplementary Grade School Work—Experience having demonstrated that a percentage of employes have not received sufficient training in the fundamentals of education to enable them to take the more advanced courses, a preparatory course for reviewing the subjects of grammar and composition, history, commercial geography and arithmetic, according to the deficiencies revealed in the mental equipment of the office, must be provided—the subjects to be stripped of everything except their practical, every-day application to the business in hand. The necessity for such preliminary work is patent to every office manager.

The educational committee of a certain company recently reported that upon examining its employes, out of a possible 300 there were 25 men who could neither read nor write, 29 who could not add, 39 who could not subtract, 47 who could not multiply, 54 who could not divide, 98 who could not work fractions, while 116 were unable to solve a decimal fraction. The ridiculous answers returned as a result of preliminary mental tests of applicants for positions, or the newly employed, are also cases in point. The director of elementary work should organize at need classes in penmanship, business spelling, commercial arithmetic, business English, elements of commercial geography, elements of civics and economics and elements of applied ethics.

Junior Clerks, Messengers, Pages, Office Boys—In every ideally conducted office work school training classes should be maintained for junior clerks, pages, messengers, office boys and all new employees who are to do special work in the various departments. This training should be given in the educational department under the close personal supervision of expert instructors. When the students report for their training they should be given printed instructions outlining the work to be covered. The pupils should receive actual practice in answering the telephone, in receiving visitors, in carrying messages to officers and various departments; in fact all the specific duties which may later be required of them.

In beginning one of these classes the instructor might give several talks in elementary and applied ethics and economics and the elements of business structure, ranging from primitive barter and sale methods up to modern corporate organizations. Several progressive companies have found this beneficial, as it supplies a foundation for the more detailed studies which come later. After the corporate form of organization is understood, the balance of the course may be applied directly to the local company's organization and business methods. Even junior clerks do not find it difficult to understand the functions of the various branches of business when explained in terms suited to their immature comprehension.

Classes in groups of from ten to thirty have been found practicable, addressed and led by various section and department heads. An important feature should be the endeavor to impress the young men and women with the essential part they play in a big organization.

The following skeleton form of a course prepared for the junior clerks of a well-known public utility company has proved successful:

- Session I. (a) Distribution of literature prepared by the company for the information of its employees regarding company policy and practice.
- (b) History of industry.
- (c) Marketing of product.
- Session II. (a) Changes brought about by product.

- Session III. (a) Fundamental advantages of product.
(b) Forecast of future of product.
- Session IV. (a) Instruction in use of public library.
(b) Courtesy, appearance and manners as success factors.
- Session V. (a) Right thinking, specialized knowledge and education as success factors.
- Session VI. (a) Power of will.
(b) Tests for individual efficiency.
- Session VII. (a) Essentials of the Constitution of the United States.

Information Clerks.

In order that the organization may run smoothly and without friction between itself and the public, all large corporations must assign to a special group of employes the duty of directing customers and supplying necessary information regarding the company. It is therefore advisable that a special course of training should be devoted to these employes. Such a course must aim to familiarize the employe with the organization of the company, the work of each department and office, the details of its business, its personnel and office practice, and of equal importance to these mediators between company and customer are methods of dealing tactfully and satisfactorily with customers and, above all, emphasizing the cardinal importance of patience and courtesy when in contact with the public, either personally or through the medium of the telephone.

Filing.

Every large corporation should be convinced of the utility of conducting filing classes in connection with the training of office workers. Such a course might be outlined somewhat as follows: The evolution of filing; filing equipment; card indexing; follow-up, tickler and charge systems; alphabetic, numeric, subject, geographic and automatic filing, and transferring. These different subjects have been worked out in lesson sheets by one company and are given to the apprentices at the rate of two lesson sheets a week. These are demonstrated and explained, after which discussion follows with questions and answers. After

the lessons have all been discussed, the students are required to demonstrate what they have learned by actual filing involving the different filing methods taught.

Efficient Telephoning.

A large part of the daily activities of any company is transacted over the telephone. The public communicates with it largely through the telephone, more especially in the way of asking for information and advice. Moreover, in large corporations the telephone is the chief means of transacting business between departments, branch offices and employes of the company scattered all over the city or town in which its plant is located.

The responsibility for efficient and courteous maintenance of telephone service rests primarily, of course, upon the individual employe, but every employe could well be put through a brief course of training that would insure for the employing company, as far as instruction could be expected to do so, a courteous and satisfactory telephone service on the part of its employes. To achieve this end the following rules have been formulated by a member company. They form an integral part of a brief lecture on the importance of the correct use of the telephone in influencing public opinion, and each employe is required to commit them to memory:

1. When calling for an outside connection ask for the number, not the name. Do not expect the operator to get the number for you. Such practice interferes with prompt service.
2. When calling for a connection hold the line and, when connected, be ready to speak at once.
3. Answer the telephone promptly.
4. Speak pleasantly in an easy conversational style, always using the rising inflection of the voice.
5. Speak directly into the transmitter and enunciate distinctly.
6. Announce the bureau; then your own name.
7. It is an excellent rule to get the name, address and telephone number of the person transmitting an order as early as possible in the conversation.
8. If you are asked for information which you cannot immediately give, do not tie up the telephone equipment and keep the inquirer waiting, but tell him that you will call him as soon

as you have obtained the information. Be sure to call him again at the time promised, either to give the desired information or to explain why further delay is necessary.

9. When necessary to transfer the call do not jiggle the hook. Move it up and down slowly. The operator will not get the signal unless contact is made by the hook.

10. When speaking to a switchboard operator, where more than one is employed, do not use another telephone to ask for a transfer of the call.

11. Use the phrase "Please transfer this call to _____" instead of "Transfer this party to _____."

12. Use the expression "Engaged on another wire" instead of "Busy."

13. Realize your responsibility for the telephone on another's desk. In his absence answer his telephone promptly, announcing the bureau and the name of the person whose telephone you are answering.

14. In answering calls for another, use the phrases: "Who is calling, please?" "If you will give me your number, I will ask him to call you." "If you will give me your number, I will see that you get the information as quickly as possible."

15. Do not neglect to say "Good-bye" when the conversation is ended. We all recall the disagreeable sensation experienced when the party to whom we have been talking hangs up while the receiver is still at our ear.

Typists, Stenographers and Dictaphone Operators.

It is becoming increasingly unnecessary, at least in the larger towns where there is opportunity for business training in a commercial school, for a company to provide elementary instruction in typing, shorthand and other skilled clerical work. However, in view of the fact that clerks with no special commercial training prove themselves capable of work demanding more training, many companies find it practicable to furnish such training themselves. However, most companies content themselves with an attempt to improve the diction and advance the efficiency, accuracy and speed of the more highly skilled classes of clerical workers.

Elementary courses in typewriting, stenography and dicta-

phone operation have a place in office work training chiefly, as has been remarked, to assist in the promotion of a deserving unskilled clerical worker, or for the purpose of teaching certain methods peculiar to the organization concerned. But for the most part the training of these skilled office workers may well consist of a course in company organization, aims, policies and practices, special training in the technical terms peculiar to the company and industry concerned, intensive training in business English (including mechanical arrangement, composition, diction, punctuation, capitalization, etc.) and the essentials of business correspondence. Such training should be entirely practical and given in connection with the actual handling of departmental work.

The aims of a well-ordered training system for stenographers, typists and dictaphone operators have been set forth as follows:

- (a) To train new employees in typing, filing and dictaphone operation.
- (b) To develop these workers and to familiarize them with company methods.
- (c) To determine by special instruction and close observation the possibilities of employees who have failed in other departments.
- (d) To serve the organization as an emergency stenographic and clerical force.
- (e) As far as possible to eliminate incompetents before making permanent assignments.

Figuring Machines.

Every modern office has need of skillful figuring machine operators, for the time-saving function of the adding machine, the comptometer, the calculating machine, etc., is indispensable. To meet this demand a number of companies have established regular courses of training in the use of such machines. In some cases an expert operator gives part of her time to this educational work, giving the actual instruction in operating the various machines in common use. Other companies prefer to have their prospective operators taught by representatives of one of the figuring machine companies or a teacher from a commercial school. For the operator already fairly expert in the use of

such machines, an advanced course, designed to increase technical proficiency, accuracy and speed, might be provided, consisting of special drills in the various phases of the work.

Accountancy Courses.

A standard office work training school would properly include a certain number of accountancy courses designed to furnish instruction in the general theory of accounts on the one hand and in the practical methods used by the accounting department of the employing company. One company with a very active and successful educational department has organized its accountancy courses to cover classroom instruction in bookkeeping, the fundamental principles of accounting and accounting problems, the latter divided into two groups, demonstration problems for use in class and practice problems which the students are required to work out independently and submit for criticism and review.

Educational Trips.

After completing the more fundamental subjects, more or less from the standpoint of theory, it is an excellent plan to give the student a glimpse of the various phases of the work of the employing company in actual operation. There are several methods of bringing the practical side of the company's work into focus for the benefit of the student. One method is to trace an order through its course from the time it is taken by the salesman to the time that it is finally closed by receipt of payment from the customer. This procedure is particularly helpful, as it promotes cooperation among the several departments through increased knowledge of the requirements of each department.

Another section of the same course might be devoted to a study of the company's product. In the case of a manufacturer and for this purpose a sample of the product manufactured might be brought to the classroom and its use fully demonstrated, or if such a procedure were impracticable the students might be taken to the product. The mechanical construction should be gone into slightly but not to such an extent, technically, as would be unwarranted.

At some time every employe should visit every section of a company's plant and have come into contact with every phase of the business in some degree, however slight.

Practical Hygiene.

All employes of any organization, including office workers, at some period of their service, should be required to attend a course in Practical Hygiene, since such factors have a direct bearing upon the efficiency of the employe in connection with his work. A very successful course has been organized on the basis of the following topics:

1. Self-development.
2. Results of ignorance and indifference—the natural causes of disease.
3. Economic value of health.
4. Importance of pure air and the hygiene of clothing.
5. Food as a health factor.
6. Exercise, recreation and rest—mental and physical.

While the same general course can be given to men and women employes, there is, of course, segregation in attendance.

Advanced Courses.

Although to the majority of business managers the term Office Work Training probably denotes courses of instruction particularly adapted to junior or subordinate office workers, a number of companies have added to their elementary curriculum a system of advanced training with the idea of developing salesmen and prospective minor executives. For such training it is well to select employes of superior physique, manner, and address, preferably with college or technical school education, although satisfactory business or industrial experience may be profitably accepted in some cases in lieu of school training. A number of companies prefer to entrust the advanced training of employes who have proved themselves of superior calibre to outside agencies at the expense or partial expense of the employing company. For example, the educational department of a New York company cooperates with the best educational institutions in Greater New York and receives from them descriptive literature of the courses which they offer. Thus the employes in consultation with this department are enabled to make a wise selection of outside courses. Correspondence courses in general business subjects are also sometimes arranged for.

A composite of such a course would include:

1. Intensive study of the particular occupation concerned—insurance, banking, electrical appliances, public utilities, etc., with special reference to the industry and development of the employing company's policy, organization and service.
2. A schedule of practical experience in offices and operating departments.
3. Fundamental instruction in economics, including relations of government to business; psychology of competition and cooperation; interrelation of the problems of production and consumption—transportation, food supply, labor supply, exchange, taxation.
4. Commercial law.
5. Industrial history.
6. Business English.
7. Marketing.
8. Advertising.
9. Salesmanship.
10. Problems of office and industrial management.
11. Details of shipping and mailing.
12. Modern business appliances.
13. Foreign languages and commercial geography (with special reference to foreign trade).
14. Applied mathematics, physics and chemistry, drafting, etc. (if demanded by occupation).
15. Interpretation of graphs and blueprints.
16. Business statistics.
17. Lectures and conferences along lines of company progress and reform primarily for department managers.

MR. W. N. FENNINGER (Brooklyn Edison Co.): On the matter of "Instructors" the report says: "Following again the preponderance of evidence submitted, the ideal training school would be conducted by members of the force, selected by reason of their special fitness for teaching and preferably with some outside normal school training or its equivalent." It is my recollection that in one of the reports presented some two or three years ago the recommendation was just the opposite, namely, that somebody who has had years of teaching experience, and preferably little business experience, should be brought in from the outside. At that time the argument was put forth that that person could pick up the information necessary very quickly, could pick up the teaching points which would generally involve the difficulties they had in learning the routine, and they would know how to teach it better than some one who had been in the office all his or her life, and not familiar with teaching. These are two contradictory recommendations from different reports, separated by two or three years, and I would be glad to have the members here give their experience pro and con on that particular point. The recommendation is that when it is possible to get some one in the organization who has had teaching experience or teaching training, that that is the ideal method, but when you do not have that person, what is the next best thing?

MANAGING DIRECTOR HENDERSCHIOTT: I think every committee has been on both sides of its topic, during some period of its existence, and I do not think we have arrived at any definite standards yet in most of the subjects considered. However, the way to arrive there is to get the opinions of those who have had experience along that line.

MR. W. D. STEARNS (Westinghouse Elec. & Mfg. Co.): I wonder if this is not largely a matter of the human element, and therefore a thing concerning which it is impossible to determine any standards. It has been my experience that more depends on the human equation and personality of the man or woman who is to do the training than on the past experience. Either way may work satisfactorily.

I have seen men taken from the organization without any previous experience in teaching, but who have the faculty and capacity for teaching, and it was easy to develop them into satisfactory instructors because of their shop background. I have

seen the opposite, in men who have the teaching experience, and have then been given the shop background, and they made an equal success.

It is pretty hard to lay down any definite, standard rule, because so much depends on the personality of the man or the woman who is to do the instructing.

MR. L. A. HARVEY (The Texas Company): It may be of interest to the members of this Association to know how we have worked this out in regard to Foreign Service. We have found it best to utilize all the information which the specialists in the Company have on a given topic. For example: the specialist on Asphalt is assigned the duty of giving a series of lectures on his specialty. Instruction in Accounting is given by an expert in the Accounting Division, who, of course, should have some gift for teaching. Aside from talks on Accounting the students have been given definite problems relating to the fields to which they are to be assigned. The above practice is followed in almost all lines, and I think it has worked out very well.

DEAN R. L. SACKETT (Pennsylvania State College): Our experience in the course of the last five or six years has been that, if we select a man or woman of the right personality for the instruction of a class—from the shop in which they are employed or from an industry of similar character we found that the students had confidence in such an instructor, because he knew the things the students were interested in, and he could use the problems of their daily work in illustrating the points he was making.

Other things being equal, it seems it might be a reasonable conclusion for the training of men and women for office work, that if a proper individual can be found, there is an advantage in having the teacher selected from the particular industry, or a teacher who is actually familiar by years of experience with the problems that come up.

MR. A. F. PICKERNELL (Abraham & Straus, Inc.): I would like to add one more angle to this discussion. We carry out our training along the same lines as just presented. We have individuals on the job—in the different departments doing the training. For merchandising, we will perhaps have a series of lectures by buyers, or in the clerical work we try to give the instruction by workers on the job. All of this work is supervised

by experienced teachers, who have the teaching point of view, and the teachers work in very close cooperation with the individual instructors in the departments and try to give them the teaching angle of the problem.

MR. FENNINGER: I ask the gentleman who last spoke, whether these people who are specialists are giving their entire time.

MR. PICKERNELL: Part time.

MR. FENNINGER: One question that came up in my mind is—have you experienced any difficulty in securing freedom of discussion when the teaching is done by members of the force who devote only part time to teaching? If he is over some of the people he is teaching, does it not occur, sometimes, that there is a feeling on the part of the members of the class that they are subordinate to the teacher and therefore they are not as free to ask questions as if the teacher had no official relation with them?

MR. PICKERNELL: No, I do not think so.

MR. L. A. HARVEY (The Texas Company): In the export department of The Texas Company we have an Educational Director who supervises the instruction that is given in the various departments. It happens that the present Superintendent of this Division was formerly a teacher in the University of New York, and for a number of years had been engaged in teaching before entering into the service of The Texas Company. This experience, therefore, fits him especially for this kind of work.

MANAGING DIRECTOR HENDERSCHOTT: I think that office work instruction has gained perhaps more recently, within the past year or two, than at any period since the organization started out on that study.

MISS ANNE DURHAM (Federal Reserve Bank of Chicago): I should like to get some expression of opinion as to the success of classes that are run after working hours and are organized under the auspices of a club, or members of the organization, and that are not on company time, but are run by the individuals themselves. I should like to ask whether that is successful and how it works out generally? What is the nature of the attendance?

MR. L. N. DENNISTON (The Travelers' Insurance Co.): We have been very successful in conducting practically all of our educational plans for employes, through the employes' clubs. We have two clubs, one for the men and one for the women. Practically all of the employes are members of these clubs, there being 4,500 people.

The Educational Committees of the two clubs meet jointly to outline the program for the ensuing session. All of the instruction work is done on employes' time, after hours. In our last year's work, we had a registration of nearly six hundred fifty; two-thirds girls and one-third men.

The attendance kept up surprisingly well, and for a period of nine weeks, the last semester, it averaged approximately four hundred. One hundred and fifty were awarded certificates upon examination at the close of the term. The only connection that The Travelers as an organization has with educational work is the offering of prizes to the successful students. The work is ostensibly done by the Committees under the direction of the superintendents of instruction and training solely in order to keep the work within reasonable lines of bounds.

The prizes that the company offers are three classes, the first, second and third prize. The three prizes offered at the completion of the last semester were \$40.00 for the first prize, \$30.00 for the second prize, and \$20.00 for the third prize. We will probably increase these prizes in amount. During the past year the company passed out approximately \$2,000 in prizes to the students. I can say that the keen interest of the workers is most gratifying. An executive of the company told me that he viewed the work of the Educational Committees now closing their second year, as the most valuable thing that had been done for the office employes in years.

The work of the Educational Committee has been confined to teaching the possibilities and extension of the business of the company. We are a multiple line company, and we are studying the fundamentals of the various multiple lines. I had the pleasure of outlining a course of study for an Indiana concern recently, the inquiry coming to me from their educational manager. It was a paint concern. He was wondering how he could outline a course of study. I went into an analysis of paints. It must be interesting to the workers to know of what the paints

are made, the ingredients going into the paints, or the history of the company, its reputation for putting proper ingredients into the paints, etc. I would think for anyone who does not follow that line of instruction, it would be well to do so, and acquaint your office force as well as factory with the fundamentals of the business in which they are employed.

We were very much troubled with the office boys who are runners and mail boys, etc. They must get to the office very early in the morning, and stay quite late in the afternoon. There is considerable difficulty with them. We took advantage of the present industrial upset, and today our mail boys are men—men who have been thrown out of industry for one reason or another. The man who delivers mail at my office has a boy in Yale. He is looking for steady employment. He wants a position that is not affected by hours of labor and rates of pay, etc. We have at the present time mail men who are seemingly happily employed, and who are enjoying the work. We are not pestered with the boy who is late in the morning, or who wants to go to the ball game in the afternoon. That does not mean we have ceased to take the boys in for clerical positions. The men will receive the same kind of training.

On the matter of instructors, we secured a graduate of a high school as instructor and it did not work out well, so last year we selected a young man who is going through our sales training, who we found had quite some experience, was a college graduate, had one year of pedagogical training, and one year at an academy. We selected him, and it has not worked out very well either. In preparation for an extension of our educational plans, I am looking for a young lady who has had some experience, but who has had a formal training, who will take up the training work in connection with another branch of our educational work, to meet that part of the educational work of the company, and get the employees interested in that branch, into the educational work.

MR. ARTHUR H. CARVER (Swift & Co.): In answer to the question asked a moment ago, I shall say that we have been running classes in nine subjects for our office employes in Chicago. Our office closes at 5 o'clock, and we have facilities there by which members of the classes can get something to eat and begin class work at 5:30. Registration is voluntary. We do not

pay for text-books or suppers. We found that when the company did so the class started off with a large enrollment that dropped off rapidly because many had registered out of mere curiosity. Where the employe feels that he has made some investment in the course, he is much more likely to follow the work through. Under this plan our initial enrollments were smaller, but five of the nine classes had at the end of the season a larger enrollment than at the start. Of the remaining four, all but one kept virtually their same enrollment.

Regarding instructors, we find that professional teachers can give a service that is vitally necessary, but are at a disadvantage due to the tendency toward jealousy against the persons brought in from the outside and the feeling that professional teachers are likely to be impractical. On the other hand, although employes of the company who have had no teaching experience may command the respect of their associates because of their technical knowledge, they lack something that is absolutely necessary if we are to avoid having our instruction unsystemized and unscientific. We have tried to meet this difficulty by having most of the actual class instruction done by employes of the company who have themselves been trained to present their material and whose work is carefully supervised by an experienced professional educator. In the case of subjects more or less academic in their nature we have used teachers furnished by the Public School System of Chicago. Business English, French and Spanish are examples of this work. Accounting and Commercial Law, on the contrary, were not successful until we put these classes under the instruction of members of our own Accounting and Law Departments.

On the whole, we have found that we must solve this question of instructors for each individual class, using professional teachers for subjects not too closely related to the business, and training our own instructors for more technical work.

MISS DURHAM: Can anyone tell us, in connection with the charging of a registration fee, how much it was and if it was returned to the student after the successful completion of the course?

EDNA I. GRAHAM (Westinghouse Electric & Mfg. Co.): Approximately 90 per cent of the girls attending the Women's Department of Westinghouse Technical Night School are trained

in some form of office work. Four of the six courses offer such training.

At the beginning of each term the attendance drops about 10 per cent, but those who remain are interested in doing good hard work.

In training boys and girls for office work through the medium of a night school we believe in placing the standard high enough so that real effort must be expended in order to reach the goal.

We have been interested in the selection of teachers for our women's training classes. Teachers from the public schools have proven our best instructors in English, especially when we have been careful to select those who are willing to depart from the purely academic instruction in order to insert more of those things needed for industrial work.

For our Shorthand and Typewriting Departments women occupying secretarial positions have proven most satisfactory. These instructors have had to be trained in knowing how to impart knowledge. Visiting schools of the district has usually been of especial value in assisting them to gain some of the technique of drilling upon essential points.

MR. A. A. KEISER (The National Cash Register Co.): Our classes started this last year with nine hundred enrolled, and finished with about seven hundred. Our instructors are taken from our own employes, except in one or two cases—in a case like the teaching of public speaking, or where we cannot find the material among our own people.

We tried the plan of a registration fee for one year, and then discontinued it. We made a nominal charge of one dollar, but we found it was not successful.

Our classes are held in the evening from 7 o'clock to 9 o'clock, and we have classes five nights in the week.

I wonder if some one could not tell us about the instruction classes that are given on company time, how these classes are handled, and what the courses of instruction are in them.

MR. L. A. HARVEY (The Texas Company): I think all the instruction that I have outlined here has been done on company time. We are especially interested when the men go abroad, that they should be well trained, and we therefore give a good deal of time to this training.

There is some instruction given to all the members of the

organization, both Domestic and Foreign. This is covered by what is called a Correspondence Course. While work on this course is done on company time, care is taken not to allow the study of the course to interfere with the regular duties of any employe. He is expected to find time for it in the intervals of his work. For this reason there is no specified period during which the course must be completed. Its value consists in giving each student a brief history of the business and a description of the various products, together with their uses. The methods of handling and selling these products both at home and abroad are briefly treated. Such a series of lessons gives a background for an intelligent understanding of the company's business.

MISS DURHAM: This is a correspondence course, and does everybody who comes into the company take the course?

MR. L. A. HARVEY: I think all the young men take the course, but that is not true of the young ladies.

MISS DURHAM: After studying the booklets and pamphlets, do they hand in their written reports?

MR. HARVEY: They are supposed to answer the questions that are asked in the book, and the mere fact that they read the lesson intelligently and are able to answer these questions, indicates that they have gained a certain amount of knowledge regarding the subject.

MR. W. E. HOSLER (The Spirella Co.): This question came to my mind when Mr. Denniston spoke about leaving it entirely to the employe. I got the impression from what you said that it is entirely voluntary.

MR. DENNISTON: It is conducted through our Employes' Club, and is absolutely voluntary with the employes.

MR. HOSLER: We have not gone into the general class work extensively, but find that when you leave it entirely to the wish of the employe, you miss many of your very good prospects who will not come in simply because they do not understand the value of personnel training and therefore will not just voluntarily enter the class and take up the work on their own time. That is not necessarily the only reason nor the major reason why the instruction work we do, so far as our office training is concerned, is always done on the company's time.

For a number of months past we have been having a regular course of training for our correspondents and heads of de-

partments in certain of the manufacturing sections of the business, by holding classes regularly once a week. The class is held from 11 to 12:15 o'clock. This costs the company the time of the employe for one hour and a quarter, but in this work we make no attempt to bring in outside instructors. We have found it more advantageous to develop the instructors from our own forces, believing that there was a greater value in the teacher or the instructor having a definite concrete theoretical and practical knowledge of our work, than to have one skilled in the teaching profession but without the fundamental or basic knowledge of the work.

In this work we have confined ourselves to the practical end of the business—familiarizing them with the product and with the technique of our plan of marketing the product. In that way we have felt that we have made greater progress than in any other particular effort we have ever undertaken in the past.

The company, before the war, specialized quite extensively on æsthetic subjects—classes in china painting, for example, for the girls—and we had choral classes, and classes in public speaking. We have not returned to that phase of the work, but have tried to interest ourselves in the practical part of the business.

There is one point that I feel personally is of very great value, and that is the advisability of having this work done on the company's time, because that makes it possible for you to discover in your force all the material that may be there.

MR. DENNISTON: We do not pay them.

MR. J. E. BANKS (American Bridge Company): We have used the 1916 and 1917 reports of this Committee in class room work, as it is about the only satisfactory thing we could get. It would not be much expense to publish these five reports combined and include them all in one book. I do not see how anybody outside could get up a book corresponding to it unless they used this material already prepared.

MANAGING DIRECTOR HENDERSCHOTT: In summing up the discussion, I shall state that The New York Edison Company, with which I am identified, has conducted office work schools for about nine years. In the beginning some of the courses were on psychology and affective speaking, and at the beginning these classes were held on the employes' time, but for two or three years we have put them on the company's time, and now

all of the courses, four originally, and now twenty, are given on the company's time. We found that in doing this, it did not require any increase in the force to handle the work of the company. And as in the case of Mr. Harvey's company, they can write their examination on company time if they have the opportunity to do so. We give the schooling for about one and one-half to three hours a week; we graduate, after a two-year term, all but about 6 or 8 per cent of those who enroll. The work is compulsory. The only reward they get is that those who take all the courses—and some of the courses are optional—receive a solid gold button, an emblem worth about five dollars, but any promotions or increases in wages are based on the employees' school record, attendance record, and personnel record, and the manager's statement as to their potential value. We are opposed to holding out an immediate monetary reward upon graduation.

We also have courses conducted by the Employees' Association on accounting, the only thing with which we can make comparisons. These courses have run nearly as long as the commercial courses and are on the employees' time. Out of 250 that will enroll, about 35 will complete the term and write up the examination.

We find it possible to put the instruction on the company's time, and insist on it so far as the employees who come in contact with the public are concerned, and we make it clear to them, when they are employed, that we shall expect them to go to school.

We prepared a Year Book which gives all the courses, teaching them about the company, and trying to teach them about the business. We have also prepared a sales manual which we expect them to be familiar with, and examine them on it, and the result is, no manager will have anyone who has not been trained—the difference is so marked, the manager insists his people must be trained. We are a service company dealing with the public, and if anybody asks a question, the person who is dealing with the one who asks the question must be in a position to answer the inquiry because he is the company as far as the customer is concerned.

As soon as the employe is taken on he is given an efficiency lecture on telephoning. We receive about 30,000 calls a day from

the school. I do not see what it means to have these calls answered and factory.

I have a beginning course telling new employees about the company's policy and we tell them we do not expect them to be of very much value for two or three years, or a month, and we tell them what we want the new man to do. Our instructors are efficient and able and have had experience in teaching. The training time is longer.

ADDRESS ON "THRIFT"

MONDAY EVENING—JUNE 6, 1921

MR. JOHN McLEOD, Presiding

MR. McLEOD: Ladies and gentlemen, Mr. McMillin, who will speak tonight on the subject of "Thrift," is taking the place of Mr. Doherty, who finds it impossible to be here. The question of thrift is one of the most human things we have to discuss. I am glad to introduce Mr. John Milton McMillin.

ADDRESS OF MR. JOHN MILTON McMILLIN OF HENRY L. DOHERTY & COMPANY ON "THRIFT"

Mr. Chairman, Ladies and Gentlemen: My commission to speak here was received on Saturday at 11 o'clock, and I am sorry not to have had more time to prepare a real paper for you, full of statistics which we could readily take out of the files in our office, but I am most of all sorry that Mr. Doherty is unable to be here and talk to you on what is really the inspiration of his whole life, this topic of thrift. He simply could not be away from New York City today. You know every big, strong leader has some mental hobby, if you want to call it that. In Mr. Doherty's case it is thrift. I have been in his family, so to speak, for thirteen years, and cannot recall a time when he has not urged upon all of us not only the practice of thrift as the foundation of all happiness and useful citizenship, but also urging us to preach it to every one with whom we came in contact.

In a limited way I shall endeavor to give you the ideas behind his urgent preaching of this doctrine and tell you of some of the practical methods to make that principle an every-day thing in the lives of those people with whom you come in contact.

You ladies and gentlemen are interested in teaching the principles of cooperative effort and improving the efficiency and

effectiveness of large organizations of men, and the topic of thrift is truly a very live one for you.

Just a word or two along the line of definition—I am obliged to speak extemporaneously, although I have gathered up a few memoranda, which I will refer to later, with your permission. Now, all we mean by thrift is simply the habit or practice of consuming less than you produce—a perfectly simple proposition. A man who needs his pay check by the time it is received to pay his rent and the grocery account is just exactly level with the ground. You cannot say he is quite thirty days behind, for, as a matter of fact, his accounts payable are exactly equal to his accounts receivable, but he has no working capital. We are trying to teach all of our people, and trying to preach the principle to others, that the real basis of happiness consists in being somewhat ahead of the game. We do not see how it makes any difference whether one man is drawing a salary of \$18 a week and another \$18,000 a year, if both have nothing left at the end of the year neither is any better off than the other.

Another thing worth noting is that thrift is really instinctive. You know that this is true even in the case of many animals. A dog will bury a bone. We have many proverbs about the bee. But most of us Americans have not the thrift habit, and the reason is perfectly plain: We are taught in this country not to be thrifty. Every year large fees are paid to men who can write effective advertisements to persuade us to part with our money for beautiful automobiles, flamboyant neckties, and what not. Very little encouragement is given to any American to develop his natural amount of animal tendency to be thrifty.

The man who comes to our shores from abroad, we often observe, is very thrifty, frequently to the point of being stingy. Over and over we have seen Italians and other workmen from abroad, draw from strange hiding places, right on their persons, astonishing sums of money. They have not been taught not to be thrifty. They are still natural and they obey a simple instinct to save.

It is our view that something ought to be done reasonably by leaders everywhere to offset in some way the many temptations that are held out to every man to waste his money. You know that we conducted a thrift campaign in the newspapers in New York City a short time ago ourselves, and a great deal

of currency came into the office for the purchase of securities, and some of it plainly showed signs of having been stored in very strange places. Much of it clearly had been sewed in the garments of its owners, judging by stains of perspiration of the body and the dye of red flannel shirts. Not all the wealth in this country is in bank accounts.

We got a good story down in Oklahoma—I meant to check up the exact data, but I did not get a chance, as everyone in the office got away on Saturday before I could get to it, but it was about like this: A man with a payroll started off on one of the lines to pay off a gang of about twenty men, and some robbers followed him. After the men had been paid off, they held up the crowd and took away approximately \$1,000 which was paid them in wages, and on investigation afterwards, it developed that these men had \$4,000 hidden in their clothes which the bandits did not get.

A banker from Iowa told me a story. He said he ran across a German lamenting over the fact that his children were so extravagant. The German said: "When I came to this country with my wife we had nothing. We bought a farm, with a big mortgage on it. We worked hard and educated our children, and by the time they grew up they were no better than Americans."

Now, a number of influences are at work which make the subject of thrift a very live one. You recognize that there is always some result produced by any campaign that is kept up incessantly, and thrift has been preached earnestly for about seven years. Governments all over the world preached thrift so that their people might invest in the loans of various states. Bankers have been telling us for some time that the world could not be rebuilt without more thrift, and less extravagance, and you can recall of their pronouncements along this line. Statesmen have been preaching the same necessity for thrift. There have been savings bank campaigns, war saving loan campaigns, and a number of other similar campaigns, and a short time ago, as you know, we conducted a very large advertising campaign. We spent around \$100,000 in newspaper space.

These and other numerous efforts to preach thrift, and to urge people not to spend everything they earn, produced one definite result, namely, people learned that they could save and

many did not know that before. Those who bought Liberty Bonds were glad to sell them and have a good time when the war was over, and I am not one of those who subscribe to the view that the Liberty Loan campaigns made a lot of people bondholders who were never bondholders before. My opinion is quite to the contrary—I believe that many bought bonds as a purely patriotic matter, and with no thought of investment. However, we have had a rather startling change in the industrial outlook in the last eighteen months or so, and it has very impressively proven to the whole of the American people, the lessons that have been preached on the subject of thrift. Now, I can assure you, there is actually more interest to the square inch in the subject of thrift, even now when people's incomes are so greatly diminished, than there was to the square yard when they had much more with which to apply the principles. They have learned that they could save, and now they wish they had and they will listen to our sermons on the subject.

During the course of the advertising campaign we conducted on the subject of thrift, we were invited over and over to send some one to speak in various places, and it was very astonishing to us all, in the random gatherings in New York City, of people who were just the accidental visitors of the evening, to see the interest they took in the subject.

Now, as you ladies and gentlemen are students and scholars, we need not let our conference this evening develop into an exhortation of any kind. However, there are a few moral aspects of the subject which we might note in passing, and then we will get down to the idea of how we can perform some useful service to our country, by some practical suggestions on this topic.

We ought, perhaps, to leave it to the preachers and political economists to point out some of the features. For instance, thrift, you might say, in our worldly life, plays very much the same part as religion in our spiritual life. Quite truly you might compare the one with the other. In fact, once a man corrected me out of an audience, and said that the first was the more important, because it was the nearest at hand. You know very well that the thrifty citizen is the better and more constructive and useful and dependable citizen. We speak of the wealth and substantial character of the people of New England. New England has been thrifty to the point of stinginess for years, and

the people of that section of the country have built themselves up into good citizens as a result.

Mr. Doherty makes a point, also, of the fact that probably nearly every dollar spent in charity is spent because of the lack of thrift, and that the same amount of money and energy devoted to teaching the subject of thrift, would conceivably make most of our charitable undertakings quite unnecessary. Just think, if you will, of the subjects of charity with whom you have come in contact in your own life, and I believe you will agree that for the most part the condition of these people has resulted from extravagance. Most of us earn enough during the course of our lives to sustain us in our old age, on our average basis. But there are many of us who do not make any provision in the time when our peak is high for the time when we may be down to a low income basis, with sickness, and bad fortune of various kinds, and nothing in the bank.

It is our belief, as a result of these considerations that every leader of thought and of industry, as the members of this Association certainly may be said to be, has a duty to perform in preaching the subject of thrift, and in perhaps suggesting a method of applying it.

Now, let me tell you a little of the advertising campaign we conducted in January of this year. You may recall that in December we had about the nearest approach, I suppose, we ever will have, to a financial panic. People were insistently selling their securities at any price whatever, full of alarm. Last December I presume our office was the first to bravely state that the country was not going clear to the doldrums. At any rate, Mr. Doherty had the courage, over his own signature, and also with that of the delegate used for the purpose, to state that in our judgment investment securities were cheaper than they were going to be in the future—rather, put it this way, they were so cheap that a man need not wait for better prices to buy. It was believed important to put the story in very simple and plain language, Mr. Doherty said, "Let us tell this story of investment securities in language that a janitor can understand." Some of you may have seen that copy and some may have thought that it was unorthodox. It was not meant for professional scholars, or for men who had a knowledge of finance and investment, but it was meant for the man on the street. We

used all the way from one column to four columns all the time, the articles appearing several times a week, and we expended approximately \$100,000.

Here are some of the results—we sold securities to at least 2,000 persons who had never previously bought any securities from us, and most of whom had not ever bought investment securities at all. Not only that, but in eleven weeks we took in currency in the amount of \$487,000 over and above the amount of currency we regularly draw out. Six hundred of us regularly cash our checks for personal purposes right here, so that ordinarily we take out some currency from the banks every few days to replenish our till. But in the eleven weeks of this campaign we deposited in banks about \$500,000 in currency. Of our security orders, we credit about \$2,000,000 to the campaign.

It is very difficult to tabulate the results exactly, because the campaign stimulated investment on the part of habitual security buyers and old customers, so it is hard to say what was new and what was old business. You may say that the sale of \$2,000,000 of securities at a cost of \$100,000 is perhaps nothing to brag of, but it is nothing to blush for either.

We are interested in the subject of thrift, as you can readily understand, when you consider our business (and you are all in the same boat with us) requires new capital continually for the enlargement of the physical properties. You may not be interested in raising additional capital for your particular enterprise, but if you are making steel, you are interested in seeing that the railroads are able to raise capital. Our own particular business is the operation of public utility plants, and petroleum enterprises, and our business requires about \$25,000,000 a year for the regular growth and enlargement of the enterprise. Much of that new capital comes from the earnings, but every year there is need for some additional money to be raised from the public by the sale of securities.

You are equally interested in this problem with us—from where is the money to come? How can we make useful application of this thrift idea to our own everyday affairs? Here is the idea, according to our point of view—let us put the emphasis upon not thrift, merely, but let us urge that the thrifty man put his savings into the securities of business corporations, and let us consider how much good that will do. If a man is

in the habit of saving his money, and buying a home, or putting his money in the savings bank, he is a better citizen than one who is not thrifty. But, if you ever had public utility rate cases to handle, you would soon learn that merely because a man owns his home or has money in the savings bank or has some kind of property, it does not follow by any means that he understands what a corporation is, or that he is friendly to the corporation as an instrument for conducting business.

In our view there is not any other way so certain of securing a square deal for big business as that of persuading the average man to become a partner by his acquiring securities of business corporations. Now, it does not matter particularly whether all of the people in this particular territory have become stockholders in the General Electric Company, or in the U. S. Steel Corporation, or in our own company, the Cities Service Company, but it does matter to all of us who are interested in corporate affairs that as many people as we can possibly encourage to do it, should become partners with some big business.

There is not any other way so sure, that we know of, to make the average man understand what a corporation is, as to let him receive a dividend check from the company, or to cash a coupon representing his holdings in a certain company. How else are you going to persuade a radical and his followers that it is perfectly proper for the Pennsylvania Railroad Company or the New York Central Railroad Company to be run as a corporation, except by letting him become a partner in some corporation? He perhaps may not understand the corporation clearly, but he will think he does, and he will not think of it as a financial octopus; but he will learn it is simply an instrument by which great numbers of people get themselves together in a partnership, so to speak, to run a business. In the end he will find, if we conduct ourselves properly, that there is no more dishonor or dishonesty in big business than there is in little business—quite the contrary, because, as a matter of fact, big business is more under the light of publicity.

Now, if we could persuade more and more people to become interested in corporations, of course they would have to save to do it. We would increase the wealth of the country in the end, and therefore its purchasing power. Therefore, if we could push this thing along, we could solve one of the very serious

problems, namely, that of raising new capital for the growth of enterprise, and do a lot of other good things for our country and its people at the same time.

In the case of my company, we have shut down every item of construction we can stop. I dare say there may be some of you who know that, if you are making pipe, for we buy a great deal of it. You know the reason. It is because money is so difficult to get, and so high priced. It is not merely that business has slowed down or that it is a matter of difficulty to get money. Bear in mind some changes brought about by the war have made it quite a problem to sell securities and raise new money to any advantage. Those of you who have incomes of \$500,000 a year and over are aware of the fact that you have to pay 61 per cent, or something like that, in income taxes. If your income is about \$5,000, you pay about $2\frac{1}{2}$ per cent of your incomes, if it be taxable, in Federal taxes and you could profitably invest in cooperation bonds. But the man with the large income can hardly afford to buy corporation securities any more. He has to pay so much in income taxes that if he should lose in any particular investment, the risk is not compensated for at all. What is the result? He seeks municipal and government securities to reduce his taxation.

The bond men used to say some years ago that there were only about 300,000 bond buyers in the United States, but now there are a great many more. But the wealthy man is almost out of the game. By wealthy man I mean such as have an income of \$100,000 a year and up. Such were the men who furnished a very great amount of capital for the industrial expansion of the whole country in former years. They bought the railroad bonds and public utility bonds in great amounts. Suppose that a man's income is such that he is taxed 60 per cent of it? Then what is the use of offering him an 8 per cent public utility bond? He would only have three and a fraction per cent per annum left out of it, and he would much rather buy a 5 per cent farm loan or $5\frac{1}{2}$ per cent municipal or state issue. Eight per cent represents the limit that the public utility can afford to pay. That means that the public utility men cannot afford to sell bonds bearing any higher rate of interest than 8 per cent; indeed, in most of the states we are limited to earn only that much. So we cannot bid the price to secure money

up any higher, and we cannot reach the man who has capital in large amounts, and what happens? We stop: no more construction, and there is no more steel business for our Chairman.

The way out of the wilderness is to appeal to the wage earners' funds and to men who have incomes up to \$5,000 a year, because even if the whole income is taxed, they pay only 2½ per cent income tax instead of 61 per cent, which the very rich man pays.

You might put it this way that the poor man can afford to buy investment securities now better than the rich man can afford to buy them, so that we have a problem to solve, namely, that of reaching the wage earner, because we can actually do better by him than we can for the so-called capitalist. We can offer an income, which, in his hands, is more valuable than it would be to a rich man.

Now, here is another reason why we think this is a good time to put emphasis on this thrift idea. There never was such an opportunity as now for the man with a dollar to invest, to do it so advantageously to himself. Do not misunderstand me, I am not trying to sell you anything, but here is the point: We have been putting out, all of us, as you know, 7 per cent bonds, 7½ per cent bonds, and 8 per cent bonds, and some of these at a discount, so that we have been offering the public 8½ per cent on excellent security, and whether we are dealing at wholesale with an investment house, or whether we sell the securities ourselves to the public directly there is a cost to the corporation for distributing securities, so that the actual cost of the company for the money which is put into the business in the case of many of these public utilities is 9 per cent, and higher. Only back as far as 1915, we were selling 5 per cent bonds at about the same price. At that time if you would go to a man and ask him to save \$100 and buy this or that bond, he would ask you what there was in it for him, and you told him \$5 a year, and he would say that it was not worth while to save the money if that was all he was going to get for saving it. That was true only a few years ago.

What has been the result? Bonds which bore interest rates at 5 per cent in 1916, and which were sold to the public at 92, are in numbers of instances available in the sixties now, so that we can say to a man, "Save \$60 and the income will be \$5 a

year." We can promise, also, that whenever interest rates become a little more normal, his bond will move up in the direction of par, so that it is conceivable in some period of time—we are not saying whether it will be a year or twenty years—but at some time he will make 40 or 50 per cent profit on his investment, besides enjoying a splendid income in the meantime.

It is difficult to persuade people to save their money as a general proposition. It is a hard task to talk to your workmen and associates, and try to persuade them to save money for the sake of putting it out at interest. But you will not find much trouble to persuade them to save their money if they have a reasonable hope of making something in addition to the interest. Instead of holding out the fact that they can receive an income of \$5 a year, on an investment of \$70, hold out the fact that in addition they can probably make \$40 or more per hundred on their original investment, whenever interest rates become more normal. Thus we have a far better argument than we have ever had before to teach thrift to the average man.

You will probably challenge the proposition that bonds bearing low rates of interest that are now selling at such big discounts will some time come back to par. Some economists have been saying that—if it ever happens, it will be a long time. But let us remind you that interest rates sometimes move pretty fast. We are in an abnormal period, and will probably go to a sub-normal period.

We were checking up some statistics when we were working out the advertising campaign, to get some facts to put in the stories, and among other things we ran across this: I think it was on February 22, 1894, that the Bank of England discount rate was reduced to 2 per cent and remained at 2 per cent until September 10, 1896, then it went up to $2\frac{1}{2}$ per cent. During this period there were transactions at less than 1 per cent. Think of borrowing money at the rate of 1 per cent per annum!

It is hard to think that money was ever so cheap, and it is the view in our office that money is now extravagantly high, and has become so very high that it has brought new construction to an absolute standstill, and the result will be that the demands for new capital may conceivably fall off to the point where the man with the money will have to seek employment for the money, rather than the situation as it now exists, where

the man who wants the money has to go to hunt for it. There is a very general agreement all around that interest rates are bound to decline. The only argument is about how soon.

It is very well worth while to hold out that proposition to the man you would teach now to be thrifty. You cannot promise that if he buys investment securities which five, or six, or seven years ago were selling at 100, and which he can now buy at 60 or 70, that in the course of a year they will be up to 100 again. But you can promise him that at some time they will be, assuming, of course, you guide his investment, which goes without saying, towards real and substantial investment securities.

We have never had such opportunities as the present to make a start towards teaching people to be thrifty, and feeling sure that there would not be any kick-back in it. We know absolutely that a man will make money under the present condition of investment securities, and if we start him now, probably nothing will ever stop him in the future.

We think in our office that it is actually the duty of every leader of business or of thought or of study, and especially men and women such as you are—it is your actual duty to show the man at a work bench, the wage earner, how he can get something like a decent rate of earnings out of his money—in fact, the same rate of earnings out of his money that his employer is able to enjoy.

Take the wage earner with the dinner pail—the dinner pail has almost gone out of circulation—but take the wage earner who would be thrifty, and who would like to do something with his money, what is there open to him? The savings bank, with 3, 4 or 5 per cent interest. He knows that his employer is making vastly more than that on his capital in the business. Perhaps the employer does not want to take him directly into partnership with him in the business, but the employer certainly can profitably direct this man in some way to get a better rate of income than anything that is publicly open to him, by helping the men save, we will say, in groups of men, and pooling their money in a fund sufficiently large, so that it is worth somebody's time to handle it. I will show you later quite a number of such schemes.

Now, you will say right off that an employer scarcely dares assume the responsibility of recommending any particular thing

in the way of a security to his people, for fear that one thing may go wrong, and he will be morally responsible. The man of business in corporation affairs knows very well that the first thing the employe wonders when you approach him on any proposition is—"What are you going to put over now?" In other words, we all have a feeling that the employe is a little bit suspicious of us, and takes everything, perhaps with a grain of salt.

Now, grant that your employe may perhaps be just a little bit careful about accepting at 100 per cent everything that his employer tells him he wishes he would do, or every bit of advice he wants to give him, but do not forget that your men have more faith in you, nevertheless, than in anybody else. The men on the payroll of any corporation will follow the leadership and suggestion of their own employer far beyond the leadership they will accept from anyone else, so if you, as the mouthpiece of your industry, recommend that the men on your payroll should endeavor to form some kind of investment plan, perhaps they will take it with a grain of salt, but they will accept your leadership when they would not accept the leadership of anyone else on that same proposition.

This scheme appeals to us in this way—that the thrift subject is right. People are interested in it, it is a good thing for the country, and for the average citizen, and for all business, that we should encourage thrift schemes, and the best way to get the best results is to encourage people to become security holders in business corporations. The next thing is how to go about it. I will briefly outline some of the schemes which have been tried. We have been lately trying to gather the data on this topic, to put ourselves in position to serve anyone who wants to do anything in this direction, by supplying them with all the schemes that are at work. For instance, you may have fifty men, or five thousand men or ten thousand men. You want to encourage them to be thrifty. What specifically, shall you do? Will you just send out a letter to them or call them into meetings, and try to persuade them to buy Liberty Bonds, or encourage them to open savings accounts or buy the securities of your own company, and if so, which of them? There are arguments for and against almost any kind of a plan, and we are trying to arrive at a definite conclusion as to just what we think is the best one. We have not come to an end in these studies yet, but I can tell you, in a general

way, we think it is going to come to this, especially for groups of men, numbered from 1,000 up—that they should be invited to buy the stock of a new company, which company should be their own, and that company should invest its money in the securities of other business corporations.

There may be certain queries raised in connection with this plan: First, why would we have a corporation? We do not know how else to manage the business. One man wants to save \$10.00 a month, and another man wants to save \$5.00 a month, and someone else wants to put in \$200 or \$400 in all. Six months later one man wants to sell, and another man will want to buy a little more, and there is a third man who has resigned, and a fourth man has been fired, and you have all of these changes in one way or another as times go by. Obviously the convenient way to meet conditions of that character is to have a corporation.

The best way to manage the fund as a whole is to pool the investment, because with competent supervision you can buy some per cent of high grade bonds, and, say, some per cent of medium grade bonds, but, nevertheless, good securities, and then you have a little something left at the end for speculation. After you have made your first investment, perhaps in six months, you will have changed your mind with regard to some things—you like the improved railroad outlook, or you like the improved public utility outlook, and you, who are in charge of the investment of the whole fund, may wish very much to change the form of investment which you have made. If you had sold the securities themselves directly to thousands of men, you could not manage them very well. You would not want to send out word to thousands of men that you had decided they ought to sell some particular bond. It might be embarrassing, and someone might criticise you for it. It would be better to handle the fund as a pool. Under this plan you could also keep some of the money invested in short-time securities, and some in long-term securities, and make the best use of the money, just as any man with a great fortune attempts to do with his money. This plan, we think, is going to be the right plan. I am giving you only the bare principle: We have many details to work out.

I will give you an idea of some of the plans I have here, because I think it would tire you to try to read very many of them. We have attempted to boil down and describe briefly a number

of the plans that are at work, and I will read you this list of names primarily to show you that this idea is not a new scheme of ours, by any means—the idea of trying to teach people to be thrifty and then teaching them how to invest their money.

The United States Steel Corporation has a plan, as I daresay you all know.

The Commonwealth Edison Company of Chicago has a plan.
 Rogers, Peet & Company of New York
 Sears, Roebuck & Company, Chicago
 Union Trust Company, Chicago
 Pittsburgh Coal Company
 Brooklyn Edison Company
 Metropolitan Life Insurance Company
 Vermont Marble Company, Proctor, Vermont
 Hibbard, Spencer, Bartlett & Co., Chicago
 Russell-Spaulding Co., Binghamton, N. Y.
 Dutchess-Bleachery, Wappinger Falls, N. Y.
 General Electric Co., Schenectady, N. Y.
 Hibernia Bank, New Orleans, La.
 John B. Stetson Co., Philadelphia, Pa.
 Celluloid Company, Newark, N. J.
 New Haven Gas Light Co., New Haven, Conn.
 Oneida Community, Oneida, N. Y.

I happen to have this data out of some notes that I hurriedly got together, but there are many other plans.

If you decide to devise a plan, first you would want to know what has been done. We are going to try to be prepared to send you data on that point. Bear in mind that those I read to you are only a few of the plans that we have been able to get digests of, that were strictly savings or savings and investment plans, distinct from participation plans. From our point of view, a participation plan, where you agree to give the men a certain bonus in addition to their salaries, is, in a way, simply an increase in their wages. If you distribute some more money among them, in addition to that which you have already distributed, unless you provide machinery for investing the money, you have not helped build them up.

Just this word of summary—we believe in the whole thing—we are at your service, and at the service of anyone in the United States who will follow the subject closely and endeavor to form

some scheme for the promotion of thrift and investment on the part of his wage earners. It does not matter to us whether our securities are bought or not, we are prepared to assist you, and we are rapidly getting the matter into better and better shape. Some time we will have a whole monograph on this subject, which I think will interest you very greatly.

THE CHAIRMAN: We have had this evening an opportunity to hear some of those things that I think interest all of us.

I am sure that we are all indebted to Mr. McMillin for coming here, and giving us this most interesting address.

I think you would be benefiting Mr. McMillin, if you could say something which would convince him, maybe, that he was wrong, or, as a result of argument, convince him doubly that he is right in some of the things he has said tonight.

A DELEGATE: I realize that Americans are very extravagant people, and that there is not very much disposition to save, but where would the reputation of our country go abroad, as the place to make fortunes if we should all become thrifty?

MR. McMILLIN: At the time that the articles on thrift were published there was considerable protest against these articles on the part of some of our department stores, whose managers claimed that the prosperity of the country depends more on spending freely than saving. I think we have an illustration right here, very close at hand. If some had not saved this money to erect the building we are in, would the building be here? This building is here because someone spent less than he earned, and had the assistance of others who had spent less than they earned and in this way they created this wonderful edifice, otherwise, it would not be here. Certainly the money that built the railroads came from thrifty people who had it available when someone came along peddling railroad securities.

MR. L. N. DENNISTON (The Travelers' Insurance Co.): I want to make a suggestion and ask Mr. McMillin to enlarge on the point of view as to the corporation formed by employees to invest their savings as against the placing of their savings into a savings bank. I have the point of view, but I would like to get some of the reasons.

MR. McMILLIN: Do not let us misunderstand each other. We are all corporation people. We are interested primarily in our own welfare, of course, but we cannot afford to put any

stones in the way of the savings banks—quite the contrary, let us give them our blessing, and any help we can. Bear in mind that there are two things to accomplish—one is to teach the people to save, and if the savings banks will do that for us, let them go to it, and the second thing we want to teach them is to become the holders of the securities of business corporations. If someone else wants to take hold and lead them into the habit of saving, very well, they will do the country good. They cannot quite do the work, however, that we want to do. We want to create a better feeling for corporations, and the way to do it is to make these people partners. If every man in the community becomes a savings bank depositor, and the owner of his own home, it does not follow that the Hartford City Gas Company will get an increase in the rates charged for gas, even if they are about to go broke. Any number of these people will say—"Let them go broke." They do not realize, when they take that attitude, that they are destroying the savings of thousands of people who contributed their funds to the establishment of the gas plant in good faith.

We went to some of the towns our company is interested in, and carried on a campaign aggressively to create a lot of stockholders for the company, for the sole purpose of getting a great leaven of public opinion, not to take advantage of it, you understand, but to get a common understanding with these people, which is a very important thing to do. By doing this we shall all find our corporate problems more simply solved, and our political problems more conveniently solved, when more people are interested in big business by owning a part of the business. Let anyone teach them to save, who will, we shall cooperate with them, and we shall be glad to do it.

MR. E. G. ALLEN (Cass Technical High School): Is there any book or pamphlet that will give to the small investor reliable information concerning such investments, or that will direct them to the proper sources of such information?

MR. McMILLIN: That is a practical question. I do not know what you could give to such a person that they could sit down and conveniently read, we will say, in a few evenings, and in this way inform themselves sufficiently well so they could pass reasonable judgment on any investment offered to them.

Here is one way. Urge them to deal with people who have a

reputation for good faith, and who have a good name to be preserved. There are specialists in investing, such as there are in law or medicine. It is fair to say that these people are making a little profit or margin, and are entitled to it, the same as a doctor is entitled to his fee. The investment firms are going more and more in the direction of soliciting these smaller investments, but you can see they cannot spend very much money prospecting for a client, who has only three or four hundred dollars to invest. A salesman may have to call upon a prospective bond buyer half a dozen times before finally making a sale. In fact, a bond salesman will have his clientele of, say, from 100 to 500 names, and all he does, the year around, is just to go over that list, and call on these people over and over again. Now, he must have the prospect of making a sale before he can take the time to call. The margin, you understand, is very much narrower in selling securities than in selling merchandise, and we think we are spending a good deal when it costs ten per cent, for instance, to distribute an issue of bonds or notes, or stock — sometimes stock runs higher.

Perhaps the bond salesman will have to call five times on this school teacher, and then sell her a \$300 bond, and the maximum margin between her and the corporation is \$30.00. Bear in mind, also there are several people who have to have a piece of that besides the bond salesman. You can readily see that the security salesman is going to seek the prospective purchaser of several thousand dollars worth of bonds, because he cannot afford to do otherwise.

The result is the "Get-rich-quick" fellow comes along with a gold brick and promises the blue sky. What does he care? It is all velvet—instead of having a prospective \$5.00 to make out of this series of five calls, as in the case of the regular bond salesman, the corporation will be lucky if it gets \$30.00 out of \$300.

The promises that we, who are in the legitimate trade, so to speak, have been able to make during the past year to the prospective thrifty man have been so lean, amounting to not more than five or six per cent, that we could not get a hearing if we did try to sell this man a \$100 bond. Along came the blue sky merchant, and he offered the fellow 100 per cent profit in six

months. Of course, at the end of six months, the salesman is nowhere in sight, he is in some other place and cannot be found.

Anyone who has been thrifty enough to save a little money ought to seek advice and part with that money only by the exercise of reasonable common sense. It is not much trouble to make inquiry in reliable places as to the responsibility of the party with whom they are dealing. When you are sick you do not go to the first doctor you hear of, you make some inquiries. Yet there are very many people who part with their good money and buy stock in a corporation they never heard of before, and they do not hear of it again, perhaps. We must get people out of that foolish habit. The Associated Advertising Clubs of the World have a department devoted to an effort to put a stop to that sort of thing, and the magazines are writing articles with the object of cautioning people as to the manner in which they make their investments.

The bank, where that teacher has her money, could, on inquiry, immediately solve the question whether the prospective investment is a good one, or simply in the nature of a gamble. There are many places where prospective investors can get reliable advice as to the character of the investments which they contemplate making.

A DELEGATE: Would not that have a tendency to correct itself as a matter of selection?

MR. McMILLIN: The blue sky fellows thrive when everybody is making money, and when they get a hearing they say—"See, everyone is making money, and why don't you do the same thing?" It was all in the air. Nowadays things are different, people are more seriously minded, and you do not hear of anything like the activity on the part of these fellows during the present time as is ordinarily seen when there is a boom on, and people are making money easily.

MR. DENNISTON: The other side of the story is, in the case of the average person, who approaches a banker, that he is advised to invest in something that will return about four per cent—

MR. McMILLIN: Bankers are going more and more into the business themselves of selling investment securities. Many banks have a Bond Department, that operates exactly as an investment dealer. Of course, they have to consider, not so much the client, as the good reputation of the bank in selling any investment

securities. In other words, the first thing they have to look out for is not to pick up something that may blow up, and injure their reputation, so they are not always in a position to offer you the best thing, in their honest judgment—the thing the officers of the bank are buying for their private account.

You go to a banker and say—"I have a young woman in my employ, more than thirty years old, who has accumulated \$5,000 and wants to put it into something in which there is a reasonable chance of making money. If you can find me an investment in connection with which there is a reasonable hope to double the money, I shall take the chance if there is not too much risk to be taken." The banker says, "We do not want to recommend anything like that to you." But with persistence on your part, he will give you the names of investment dealers who do business and give you their estimate as to how much of a chance you will take in buying the character of security which you have in mind.

A banker has to be very careful as to the recommendations which he makes to prospective investors regarding the securities they buy.

MR. JAMES E. GHEEN (Niagara Falls): Suppose a man had no money saved, but thought that he could save \$100 a month and wanted to save it in a way that he would have the greatest accumulation in twenty years, in what character of investment would you recommend that he should put his money?

MR. McMILLIN: You think that is an easy question. I want to tell you it is not. The security investment banker is in the relation of a financial adviser to his client. In other words, if a widow sixty years old asked you what she should do with her \$10,000, you would not tell her the same thing as you would tell a man who in all probability will make and lose that much three times over before he is sixty years old, what he should do with \$10,000. In the case of a young man, we will say, with a big family of dependents and no earthly hope of making a stake again if he should lose it, you will take all those things into account. You must consider also whether your client must invest the money in such a way as to always keep it available, in case of an emergency, so he can call it back, and that limits the investment somewhat, or whether you can afford to put this \$100 a month aside, and say there is nothing on earth that will happen that will require me to call in any of that money until the end of twenty years.

You just simply cannot prepare a blueprint providing all cases. That is why a competent investment dealer is the place to go for recommendations in specific cases.

We must sit down with the client and see what are the conditions. You might ask a doctor, "What would you give a fellow for the stomach ache?" He could not answer you, unless he knew more about what caused the stomach ache, and so in the field of investment it is necessary to understand all the conditions and the personal requirements to make the investment.

A DELEGATE: I think this proposition all goes back to one thing, and that is people have got to learn to think for themselves. The fact is that advertising is a selling proposition everywhere, and I suppose that in the United States we are teaching the world how to advertise.

CHAIRMAN McLEOD: I think we are indebted to Mr. McMillin for the opportunity given to us to listen to his interesting address, and at the same time to have some little controversy with him and some of the things that he presented, which, I think, is all in the interest of your own ideas of things, and also in the interest of the National Association of Corporation Training, to get something clearly and definitely defined from the standpoint of the opinions that you hold.

(The meeting then adjourned.)

PUBLIC EDUCATION

TUESDAY MORNING—JUNE 7, 1921

MANAGING DIRECTOR HENDERSCHOTT, Presiding

MANAGING DIRECTOR HENDERSCHOTT: Mr. C. E. Shaw, Chairman of the Committee on Public Education, will present his report.

CHAIRMAN SHAW: The subject assigned to the Committee was "To suggest a scheme of standards for rating the graduates of the public schools, that will enable employers to judge more fully their fitness for their work." The Committee made certain reservations and took certain things for granted. First, we assumed that employers wish to have some way of sizing up men and women, boys and girls, who come to them for positions. Secondly, we determined to use the term "graduates" broadly, simply meaning any boy or girl who leaves public school, and not necessarily those who have graduated from grammar or intermediate schools.

Our first problem was to determine what subjects employers generally considered essential, so that we could determine along what lines interviewers would be interested in examining the progress of the pupils. We are fortunate in having in our proceedings an exhaustive study that has been made to determine the subjects in a school that employers consider essential for industry. The first section of the report is taken with some eliminations from the Proceedings of the Association for the year 1916.

To determine standards and ways of measuring achievement in all the subjects that were presented in that report is a pretty big task. Your Committee decided to limit its work to those subjects that were practically unanimously considered necessary by the membership at that time. It is interesting to note that the classification of the subjects in that report correspond to the three stages in the educational life of the average boy and girl, primary school, intermediate school, and high school. We decided to limit our work to the first six grades of public school work, and to

the subjects of reading, mathematics (especially arithmetic), penmanship, and spoken and written English,—practically the three R's. We have provided and given in this report standards for higher grades, so that if anyone is interested in securing boys and girls who have achieved more than the first six grades of schooling in these subjects the test can be scored and the standing determined.

This report does not intend to exclude any other scales for measuring achievements and attainments in education, but contains those which seem to be the easiest and simplest from our viewpoint, that is, for employment departments, to use in the testing and measurement of educational achievements of boys and girls who go to them from school.

As I understand it there are two kinds of tests, one for general intelligence, or mental alertness, and the second for measuring the achievements or attainments in specific subjects.

Most of the general intelligence scales take rather a long time to give and are rather complicated in their scoring, and presumably the average employment department would not have the time or have the patience to use them in their entirety. After all, as a boy of fourteen, sixteen, seventeen or eighteen years of age, is not applying for a very important position, we are more interested in general tendency, than we would be in the case of men applying for executive positions, where the general intelligence is of much more importance. Mr. J. F. Guy, who is director of Research and Measurement Bureau in Pittsburgh, gave us an adaptation of the Otis General Group Intelligence Scale, that he claims is fool-proof, for the measurement of ordinary attainment in general intelligence, as it will indicate the very low and the unusual in general intelligence.

Coming to the measurement of actual educational achievement, we suggest the use of the scales recommended in the report.

We are devoting quite a little attention to physical examinations to determine physical fitness for work. It is in the minds of the Committee, at least, that probably the time has come to devote a little time to determining the mental equipment of applicants for jobs. In some cities, and I have in mind particularly Pittsburgh, the schools are furnishing information about the intelligence and achievements of their pupils to prospective em-

ployers. Wherever possible, we as representatives of industrial organizations and institutions should urge public school departments to give us more scientific ratings and scientifically determined information about the boys and girls who come to us for positions. Wherever such work is not being done, however, this suggested use of educational measurement scales is available for employers, and can be used by them by organizing their employment department for that purpose.

There are two or three phases of this question that I should like to have discussed.—First of all, is the question of the necessity for such tests, whether or not representatives of industrial and commercial organizations believe that it is necessary to do such work, and whether they consider it vital in the placement of their employees? There is also the question of the value of the work, if attempted at all. I am going to ask someone to give you the story of just what is being done in Pittsburgh, and of what value it is to the employers in that vicinity. In the Pittsburgh public schools they keep an intelligence record card, and also an achievement record card of the boys and girls all through their intermediate school career up to the high school. They are rated on a basis of tests, in reading, arithmetic, language, writing, etc., given the Otis Group Intelligence Test, and are rated in certain personal qualifications, such as industry, initiative, leadership. This information is kept on file for every boy and girl in the Pittsburgh public schools, so that when any employer is interviewing an applicant for a job, someone in the school department can furnish him information about this boy or girl's mental ability and educational achievements. I should like to ask someone here regarding that work from the employer's viewpoint.

COMMITTEE ON PUBLIC EDUCATION

MR. C. E. SHAW, *Chairman*

DENNISON MANUFACTURING CO.
Framingham, Mass.

MRS. VIRGINIA DREW

WASHINGTON IRVING HIGH SCHOOL
New York, N. Y.

Miss MARGARET SIPPLE

FEDERAL RESERVE BANK OF CHICAGO
Chicago, Ill.

MR. C. E. HEDDEN

CARNEGIE INSTITUTE OF TECHNOLOGY
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MR. L. E. BARRINGER

GENERAL ELECTRIC CO.
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56 Day's Park,
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REPORT OF COMMITTEE ON PUBLIC EDUCATION

Subject: "To suggest a scheme of standards for rating the graduates of the public schools, which will enable employers to judge more fully their fitness for their work."

Introduction

For the purpose of this report the word "graduates" in the subject is taken in a broad sense, covering all boys or girls who leave school and go into vocations, whether or not they have actually been graduated from grammar or high schools.

By a "scheme of standards" the Committee understands that it is to furnish employers ways and means of determining educational fitness in terms of a scale of measurements which will enable the employer to judge whether or not applicants for a particular job measure up to its educational requirements. The study of this subject naturally resolves itself into three parts: first, the determination of the educational requirements of industry and commerce; second, the selection of tests and standards which will measure these requirements, and third, recommendations and suggestions to those who are to use these tests.

I

Educational Requirements of Industry and Commerce

A study of the 1916 proceedings of this Association shows that the Committee on Public Education at that time went into this phase of the problem very exhaustively. A questionnaire was sent out to employers to find out what subjects in school programs were of value to those who are employed in various jobs offered by industrial and commercial organizations. "This questionnaire brought out," we are told, "between 5,000 and 6,000 individual replies, so that it may be presumed to represent as a whole the well-thought-out opinion of large employers of labor."

Among the findings of this committee we quote the following:

"a. The following are of value to the very great majority of all pupils for their practical use in everyday and business life:

Reading
Mathematics (especially arithmetic)
Penmanship
English, spoken and written."

"This list is practically the three R's, if writing is held to include correct writing of the language as well as penmanship. It is a very brief list, but it is presented as covering the subjects which employers of our boys and girls agree on as necessities."

"b. The following subjects are of large value because they tend to enlarge the appreciative powers of the pupils and because they have a re-creative effect:

History
Music
Freehand drawing
Physiology
Nature study
Science (bearing in mind this is for grammar schools only)
Chemistry (bearing in mind this is for grammar schools only)."

"c. Certain other subjects including:

Civics
Geography
Physical culture
Mechanical drawing
Manual training

appear to offer possibilities in the way of training that combines something of the functions of both of the above."

"The above statements appear to be borne out by the results of a questionnaire, which was sent to the members of the Association. . . . It appears from this that we are unanimous in thinking that the following subjects are of prime necessity:

Addition; whole numbers
Subtraction; common fractions
Multiplication of decimal fractions
Division
Percentage
Simple interest
Reading
Penmanship
English composition
Business English
Spelling usual words."

"These in themselves form a pretty well-rounded education, but to this 60 per cent of our answers would add for certain parts of their organization:

Proportion
Compound interest
Spelling of technical words
Geography (physical and commercial)
United States history (political)
Physiology
Civics (intimate relations of people with their government)."

"The following subjects are apparently considered of little or

no value by 70 per cent of the members who answered these questions:

Cube root
 Music (vocal and reading)
 Science
 Chemistry
 Principles of government
 Foreign languages." *

The conclusion of this 1916 report forms a very satisfactory basis for the present report. It will be noted that the subjects as grouped in the quotation above are practically the same as are usually covered in primary, intermediate and high school respectively. The classification is broad and general, but undoubtedly not specific enough for many vocations. To attempt, however, to define more closely by specific vocations would involve a tremendous amount of research, which obviously cannot be covered in a report of this kind. It should be borne in mind, however, that the educational requirements of specific jobs vary more in degree than in kind. Progressive employers can determine by job analysis, as many already have done, the degree of attainment in a subject required in any specific job. In fact many employers already have job specifications covering these very points to guide their employment departments in the selection and placement of applicants for positions.

* 1916 Proceedings National Association of Corporation Schools, pp. 234 ff.

II

Educational Measurements

A study of the work done in the field of Educational Measurements shows that there are many proved tests used in the more progressive public schools of the country. The purpose of the tests from the school view point is not merely to determine attainment in a given subject, but also to ascertain the individual needs of the pupils and the degree and kind of drill needed to meet these needs. They are also used to check up the relative efficiency of teachers and instructional methods. As such they are usually too detailed and too long for use by employers for selection purposes. The employer needs tests which will show him quickly the general intelligence and educational achievements of those who apply to him for positions.

The present report is confined to a test (A) for General Intelligence, and tests (B) for those subjects which were unanimously selected as essential in the replies to the 1916 questionnaire of the Committee on Public Education. These are (1) Arithmetic, (2) Reading, (3) Writing, and (4) Spelling.

(A) General Intelligence

For the following method for employers to use in testing public school graduates for general intelligence, the Committee is indebted to Mr. J. Freeman Guy, Director of Research and Measurement of the Pittsburgh (Pa.) Public Schools.

Measuring General Intelligence in 15 Minutes

General Intelligence, Character and Previous Achievement are three vital factors in "making good." Every pupil leaving the public schools in Pittsburgh since June, 1920, has ratings on all three of these.

For some time, however, the Vocational Placement Department in Pittsburgh has felt the need of a short fifteen-minute test for applicants who have not received such a rating before leaving the public schools. About January 1st the problem was

put up to the Department of Research. Tests 2, 7 and 9 of the Otis Group Intelligence Scale were selected, because Opposites, Analogies, and Language Completion are known to correlate highly with General Intelligence.*

(B) *Educational Achievement Measurements*

While the Otis Test scores indicate where an individual may stand in relation to a group of 100 of his age, it does not prove that he has attained a certain grade of achievement in arithmetic, reading, writing and spelling. This information must be secured by other scales if it is essential for placement purposes. For measuring achievement in these specific subjects, the following scales are suggested:

Arithmetic. Woody Scales for addition and division, Series B; published by Teachers College, Columbia University, New York City. The scales for subtraction and multiplication may also be used, although the scores made in addition and division will indicate accurately enough for employers' purposes the achievement of the boy or girl in arithmetic. These tests measure the power of the boy or girl to solve more and more difficult problems.

Reading. Thorndike-McCall Reading Scale for the understanding of sentences. Published by Teachers College, Columbia University, New York City. This scale also is made up of increasingly difficult steps, and measure the achievement of the boy or girl in this subject.

Writing. Ayres Handwriting Scale, Gettysburg Edition. Published by the Russell Sage Foundation, New York City.

Spelling. Buckingham Extension of the Ayres Scale. Published by the Bureau of Educational Research, University of Illinois, Urbana, Illinois. Employers may make a test from this scale by taking one word from column H, one from column I and so on—one word from each column from H to and including column AF. A list made up in this way is found in Appendix F.

* The Otis Intelligence Tests are published by the World Book Company, Yonkers, N. Y. The price is \$1.50 per package of 25. A Manual costing 40 cents gives full and complete direction for administering.

Any number of spelling lists may be prepared by selection in the same way. The advantage of this plan is that it affords a means for securing a real measure of a person's ability, whether he comes from the fourth grade or the eighth, and also that it measures the degree of difficulty of the word the child can spell rather than the number of words of the same difficulty.

Standard Scores *

1. *Arithmetic*

Standard scores by grades for Woody Addition Scale, Series B. Scores are numbers of problems correctly solved in ten minutes.

Grade	III	IV	V	VI	VII	VIII
Average School	9.0	11.5	14.0	15.5	16.5	17.3

Standard scores by grades for Woody Division Scale, Series B. Scores are numbers of problems correctly solved in ten minutes.

Grade	III	IV	V	VI	VII	VIII
Average School	4.0	6.5	8.5	10.5	12.0	13.0

2. *Reading*

Standard scores by grades for Thorndike-McCall Reading Scale, Form 2. Scores are the average of tables on page 2 of the Directions for using the Scale.

Grade	IV	V	VI	VII	VIII
Score	41.0	46.5	52.0	57.0	60.0

3. *Handwriting*

Standard scores by grades in handwriting. Speed is number of letters written per minute in a two-minute trial, writing perfectly familiar material. Quality is in terms of Ayres Scale, Gettysburg Edition.

Grade	III	IV	V	VI	VII	VIII
Average Speed	45	55	64	72	77	80
Average Quality	42	46	50	54	58	62

* The scores for Arithmetic, Handwriting and Spelling Scales are furnished by Dr. Trabue, Director, Bureau of Educational Service, Teachers College, Columbia University.

4. *Spelling*

Standard scores by grades for any list of twenty-five words, selected by taking one word from column H, one from column I, and so on—one word from each column from H to and including column AF of the Buckingham Extension of the Ayres Scale. Scores are numbers of words correctly spelled.

Grade	III	IV	V	VI	VII	VIII	IX
Average School.....	7.6	10.5	12.5	14.5	16.4	18.3	20.0
Baltimore Average....	9.7	12.6	15.2	17.1	18.5

III

Use of Tests in Employment Departments

Mention has already been made of the fact that before educational tests can be used effectively employers must know the educational requirements of jobs. Where information is already available in the form of job specifications, the tests described in this report can be used in determining an applicant's educational qualifications inside of the grammar school ages. There is of course a time element involved in their use which may seem objectionable to the average employment manager. An analysis of the methods used by interviewers will show that the tests might well take the place of some of the interviewer's aimless questions. Again employers have to a large degree been sold the value of physical examinations as an aid in determining the applicant's physical qualifications for the job. Shall we continue to overlook or fail to determine an applicant's mental and educational qualifications?

In a properly organized and well-managed employment department a bright assistant can be trained to give and score the tests, leaving the employment manager or interviewer free for non-routine duties. It can be arranged for tests to be given to groups of applicants rather than singly.

At present it is generally the practice to judge of the educational attainments of an applicant by asking the applicant what grade in school he has reached. The information thus obtained is very general. It is well known that the achievements of a large number of pupils in a given grade are scattered over a wide range from poor to excellent. Furthermore, the grade attained by a pupil does not of itself indicate his natural intelligence. The use of educational tests will quickly indicate to an employer the pupil's standing in a grade in comparison to the average pupil of that grade. The information thus derived is more exact and therefore of greater value.

In some of the more progressive communities, the school departments are equipped and ready to furnish information concerning the educational fitness of its pupils. In Pittsburgh, for

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example, an Intelligence and Achievement Record Card is kept for every pupil showing his performance on educational tests, his standing in general intelligence, his ratings in school subjects and personal qualifications. This information is available for prospective employers, and also serves as a guide in helping the pupil to select his future vocation.

Wherever such records are kept scientifically the employer should make use of them in his selection and placement work. They will serve his purpose far better than any test which he himself may use, to say nothing of the time saving involved. In communities where such work is not being carried on by school departments, employers will of course have to use tests themselves. It is to be hoped, however, that employers who have at heart the working out of scientific selection and placement in their employment work, will do all in their power to encourage the extension of the work of educational measurements in the schools themselves for vocational aid purposes.

Conclusion

This report is not in any way a complete and exhaustive study of the subject. Not all grammar school subjects are covered and no attempt has been made to cover any subject beyond the grammar grades. This report suggests possible ways for progressive employers to strengthen the methods of their employment departments. The Committee sincerely hopes that it will stimulate sufficient interest among the members of the Association for them to carry on more intensive work along these lines.

Appendix**BALTIMORE SPELLING LIST ***

Buckingham-Ayres, H—AF

<i>List X</i>	<i>List Y</i>
1. yes	1. box
2. song	2. tree
3. forget	3. girl
4. water	4. clean
5. lesson	5. world
6. railroad	6. contract
7. yesterday	7. bridge
8. liberty	8. company
9. entrance	9. beautiful
10. property	10. relative
11. visitor	11. prepare
12. examination	12. investigate
13. political	13. conference
14. receive	14. agreement
15. secretary	15. experience
16. athletic	16. practical
17. committee	17. annual
18. restaurant	18. orchestra
19. cemetery	19. enthusiasm
20. kerosene	20. apologize
21. guarantee	21. pneumonia
22. cantaloupe	22. syndicate
23. souvenir	23. chauffeur
24. rhinoceros	24. inflammable
25. conscientious	25. dissension

*Furnished by Dr. M. R. Trabue, Teachers College, Columbia University, New York City.

Directions

Have each child write his name in the upper left hand corner of his paper. As soon as this has been done, have the pupils write, immediately under their names, the number indicating their school grade. Immediately under "school grade" they should write their age at last birthday.

As soon as these items have been written at the top of the sheet, the examiner should make the following statement: "This will be a spelling test. There are twenty-five words in the list, so you may make the numbers from one to twenty-five in a column down the left hand side of the page. Write them quickly." Allow forty seconds for writing these numbers.

The examiner should then make the following statement: "The first words in the list are quite simple, but each word is more difficult than the one before it, so that the last words are perhaps too hard for most of you. Be careful, therefore, to spell each word correctly, if you can. I shall speak each word twice, but never more than two times. I suggest that you watch me when I pronounce the word in order not to make any mistakes about what the word is. Be sure to write each word after its proper number. Do not begin writing until I have pronounced each word the second time. Listen closely. First word: yes, yes. Second word: song, song." And so on.

Allow one and one-half seconds between the first and second pronunciation of the word. Allow approximately ten seconds for the spelling of each of the first fifteen words and about fifteen seconds for the spelling of each of the last ten words.

Papers should then be checked and the number correctly spelled compared with the standard scores will indicate the child's school grade achievement.

MR. L. A. HARVEY: How did you succeed in getting the rating system into the public schools?

MR. P. E. WAKEFIELD (Carnegie Steel Co.): I can answer Mr. Harvey's question, Mr. Chairman, but cannot answer yours, because the company that I represent has most of its mills outside of the city limits, and draws very few of its employes from among the Pittsburgh public school graduates.

THE CHAIRMAN: Does your Committee use any of that data at all?

MR. WAKEFIELD: During most of the time since this system has been in effect, labor has been scarce and jobs plentiful. When there are more jobs than there are applicants to fill those jobs, and an employer is compelled to accept whatever young men he can get, the employer gains nothing by applying to the public schools for information regarding the characteristics and qualifications of these young men. Of course, the labor situation is now very much changed, but I am not able to state how much the employers of Pittsburgh are applying to the public schools for such information.

I may say, however, that the Pittsburgh Chapter was instrumental in devising this system and having it introduced into the Pittsburgh Public Schools. Great credit for this work is due the Chapter Section on Industrial and Public Schools Relations.

CHAIRMAN SHAW: I do know this much, but it is from the public school side, rather than from the employer's side, that use is made of the records and information that are kept in the measurement bureau in Pittsburgh by employers in the City of Pittsburgh. Mr. Guy told me of one department store—which, before selecting anyone for any position from errand boy or cash girl up, gets in touch with the public school authorities to make sure that the applicant has a certain grade of intelligence, and a certain amount of educational achievement.

MR. RUSSELL C. LOWELL (Public Schools of Indianapolis): This seems to be a proper place to let the representatives present at this convention know something about the attitude of the schools in general towards intelligence tests.

During the last five years, at least, the idea of testing pupils in the public schools to find out their intelligence, or better perhaps their natural or innate ability, has been considered an important activity of the schools. In many cities men are employed whose

sole business is to conduct and devise intelligence tests as well as the tests of accomplishment in school studies. Unfortunately, from my point of view, these tests are conducted by men outside the vocational department, but through cooperation. The results of their work are available in all branches of the school system.

Like the vocational teacher, these people in the research departments have to work against definite opposition not only from the regular school teachers, but against certain social forces. The parents, particularly those who have had few advantages themselves, oppose the tests. They feel that they will be told that Johnny has no brains, that he is below the average of intelligence. We can sympathize with such people, but as a matter of fact the results of these tests are not made public and in most cases even the parents are not told any more about the results than may be necessary to cause them to insist that Johnny work harder while he is in school.

The Directors of Research have available for their use many intelligence tests which have been standardized carefully. They are doing their work with judgment and generally in a satisfactory manner. In Indianapolis we have a very energetic and capable man in charge of this work. The results of his tests and investigations are available to all, but particularly to the vocational department. Through the vocational department employers can be informed regarding the apparent promise of young people whom they employ.

The tests available are of two kinds: The group test, similar to the Army Alpha tests, which enable us to sort the pupils roughly into grades according to intelligence; and the individual tests which are much more accurate, but which require considerable time. Both series of tests are so planned as to test not less than six and sometimes as many as twelve mental qualities or what are sometimes called mental abilities. The final mark is the summation of all the tests. The individual tests are given to the abnormal pupils, that is, those who get a particularly high or particularly low score in the group tests. Much opposition to the tests can be avoided if those who give them explain carefully their real value. They do not enable the examiner to predict the success of the individual; they do not test the ambition, initiative, stick-to-itiveness, and the ability to get along with other individuals. They do measure very accurately the

innate ability of the individual so that we are almost absolutely justified in saying to the student who tests high, but is not successful in school work, that his failure is due to lack of ambition or to laziness. Those giving the tests should very carefully state that the interpretation of the results obtained must be made by a person who knows the use and possibilities of the test. Their misinterpretations may do more harm than good.

In Indianapolis we have done less than many cities owing to financial difficulties and also to the difficulties which our organization in the school department presents toward the introduction of new ideas. Many cities have vocational guidance and placement departments or as twelve cities call them vocational relations departments. Employers can assist the vocational department of the schools very materially not only in vocational work, but in this mental testing, counselling, and placement work by publicly favoring the introduction of this new department. In Indianapolis the Merchants Association, of which most retail merchants are members, has publicly favored the vocational department program including the vocational relations. It is expected that several other employers' organizations will do this later. When they do the Board will appropriate the money and start the department. The employers can later be helped by calling upon the school department for the results of the intelligence tests. I feel that the members of this association can do much to help in the cause of intelligence testing. We do not yet know how to test ambition. We may learn if we are given a chance. We do know how to test native ability, though we do not know all about the interpretation of the results as yet. When you realize that \$10,000 a year will enable the school department in most cities of from 150,000 to 400,000 to make a good start toward a department of vocational relations which will, working with the research department, test all who leave school to work thus enabling the employer to select his young workers with much more certainty of success than is possible now, you can easily see that from a business point of view it would be wise for the organizations of business men to definitely favor such a department and bring pressure to bear upon the School Board to start it. The active cooperation and counsel of the employers will always be sought by the men in charge of this work. I am personally very strongly of the opinion that this vocational relations department should

be definitely under the Vocational Director in order that it may function more closely with the business world than is the case if it is under the so-called "old-line educators," men who are extremely earnest and hard-working, but whose knowledge of business requirements and conditions is very limited.

MR. ARTHUR H. CARVER: It seems to me that the portion of this report devoted to educational achievement is very good, but I think the part on intelligence testing has been dismissed with too little emphasis. In the long run educational achievement is of less importance in placing new employes in positions that they are required to fill than is the native intelligence with which those employes are endowed at birth, for it is this intelligence that measures their capacity for development and shows their future limitations.

A lot of the difficulty about intelligence tests in the industry today is due to the fact that they rest upon a fundamental principle that four people out of five who are not psychologists do not believe and do not want to believe. I refer to the fact that every human being is endowed at birth with a certain native intelligence, due to the construction of his brain that cannot be improved by anything he may do, but which may deteriorate as a result of bad habits or use of drugs. The idea that there is anything about a person's mental machinery that places a definite limitation upon what he can do in life is one that many people do not wish to accept, but which psychology has demonstrated to be true beyond question.

I have found in our company much skepticism regarding intelligence tests largely due to the abuse of the word "psychology." In industry there has been so much quackery, so much hocus-focus that has gone around in the name of psychology that business men have become disgusted with it and, being unable themselves to separate the false from the true, have often discarded both. There is great danger in such a thing as is implied in this report under the topic "Measuring General Intelligence in Fifteen Minutes." It cannot be done. If we are going to use the general intelligence test, we must do the thing right or else expect to make all sorts of ludicrous mistakes that will bring nothing but disrespect upon ourselves and prejudice industry against the use of a good thing that we have abused. The value of intelligence tests in industry must be sold by showing results. This cannot

be done unless such tests are administered and interpreted by people who have had psychological training and understand the principles upon which such tests are founded. Any fool can put a thermometer into a sick person's mouth and take his temperature from time to time, but it takes a trained physician to tell what the changes in temperature mean in the progress of the disease. Similarly, almost anyone can give a standardized intelligence test, rate it according to instructions and announce a final score; but that score is of little use until it has been analyzed and interpreted by some one who knows how. It by no means follows that the person with a higher total score is better adapted to a given job than one with a lower score.

I do not think, after a good deal of experience with the Otis test, that although tests two, seven, and nine correlate fairly highly with the general results obtained by the whole group, it would be safe to adopt these three tests as has been suggested. You do not have enough to go on.

So far as the relation between labor turnover and general intelligence is concerned it is important to note that it is just as fatal to put people into jobs beneath their intelligence as it is to place them in positions requiring more intelligence than they possess. It is possible by the careful use of first class tests given to employes actually on the job to determine with fair accuracy the upper and lower limits of intelligence necessary for any given class of jobs. When this has been done the intelligence test will be of great help in determining whether applicants are likely to succeed in the position for which they apply.

It is very important that we who are interested should avoid over-rating the value of such tests. We must not claim for them things that they will not do. I think that a very careful study should be made of this whole field, not only with regard to the best available tests that can be found, but with respect to the equally important matter of how to get them accepted in industry.

CHAIRMAN SHAW: Committee on Application of Psychological Tests and Rating Scales in Industry has gone into the question of the use of these scales and test more from the point of handling older employes and judging of their fitness for their work and positions. There may seem to be something conflicting between the two reports, but we have limited ourselves to the

boys and girls, just leaving school, rather than testing the older people.

We welcome criticism from any of the members with regard to the report which we have presented.

MR. E. G. ALLEN (Cass Technical High School): In the interpretation of intelligence tests is there any factor whatsoever that would determine the ability of persons who apply themselves to the job? In other words, is there any factor that measures their sand and their steam? The real question is do we have a right, based upon present knowledge of intelligence tests to use them in the direction of individuals over a life work?

MR. JOHN D. GILL (The Atlantic Refining Co.): The gentleman who has just spoken brought out a fact from the academic point of view, and I want to corroborate it from the practical point of view. We have been giving psychological tests to prospective salesmen for about six years, and we have found absolutely that men who sometimes pass the psychological tests with a high rating, absolutely fall down on the job, and to use the expression just made, they lack the steam and sand, particularly the sand.

MR. ARTHUR H. CARVER: In reply to the last two gentlemen, I want to say that I meant exactly the same thing when I said that we must be careful not to over-rate what a psychological test is supposed to do. Success on the job depends upon something else besides intelligence. Such qualities as initiative, ambition and perseverance are highly important in the case of any employe on any job. But the admitted fact that intelligence is not the only factor which determines success is no reason for us to neglect the measurement of that intelligence. If native intelligence is there, he will succeed provided he has the other necessary qualities.

To attempt to say that every applicant who measures up to the standard required in the intelligence test will be successful and to promote employes on this basis is foolish and cannot fail to work serious injury to the advancement of psychological tests. It is the unintelligent use of these tests from which we must get away.

MR. RUSSELL C. LOWELL: We have an intelligence test, but no ambition test—

MR. CARVER: There is a correlation there.

MR. LOWELL: We have not provided a good ambition test as yet.

MR. L. N. DENNISTON (The Travelers' Insurance Co.): Think of placing on a child eight, nine, or ten years of age, a limitation because its intelligence test happens to be low the day you give it or on two or three consecutive days when they give it. I have observed the giving of intelligence in the public schools for some considerable time. I have watched the boys and girls in the small communities, and I have known of a half dozen cases of boys and girls who passed the highest grade. In the case of a brother and sister, in one instance, the sister got a rating of 223, and the brother had a rating of 214,—and putting this on the maximum test, the army test, it was 212. He was up near the maximum. These two children are absolutely impracticable from any standpoint. The boy can hardly find his way about town although they have been across the continent three times. A child I know intimately, that received one of the lowest tests, is a child who is most practicable, and with a great deal of intelligence and snap. If they had taken the child, Carl Witte at birth, or six months after birth, and determined its intelligence by what it looked like, he would have been in an asylum, and then a parasite on the public. But the father of the child realized that it was something more than the formation of the head and size of the brain that gives intelligence, and he set to work to teach the child by arduous processes. You say that he had native intelligence, perhaps, but I claim there is grave danger when you take a measure of a child, a boy or girl, in a school, and then tell them that they are limited in their mental capacity. You say you have not an ambition test or a "sand" test. I am afraid that there are men in this room who would not be where they are today if at ten or twelve years of age, our teacher said to us, "You have a low intelligence test." I say it is one of those subjects "Where ignorance is bliss, 'tis folly to be wise." You are placing a limitation on intelligence, when intelligence is a reflection of the Divine ideal, and can be acquired in the ratio in which the individual reflects this ideal, but not by placing human limitations and that is for what you are using this system—to discover the human limitations.

MR. JOHN CALDER (Swift & Company): The opinion has been expressed that mental tests are dangerous; the indication has been given that instead of being used solely to inform the

tester they are carelessly handed out to the tested. It is also indicated that some of those who would like to have the aid of such tests disbelieve in the underlying principle, namely, the established doctrine of fixed mental levels. The discussion reveals confusion as to the meaning of terms.

The term "intelligence" so often wrongly used to mean or to include "knowledge" is strictly the native mental ability of a person. This is practically fixed before birth, though it may be afterwards poorly utilized in any one life if it is not supplied with the proper knowledge at the right periods of human growth. Prolonged study of feeble-mindedness has proved that the conditions that fix intelligence are definitely settled by a physical condition in the individual that is unchangeable; that intelligence is a matter of brain cells and nerve center patterns, and still more definitely intelligence is a question of the development of the larger association areas of the brain, the full working of which develops relatively late, and hence this development is particularly liable to arrest; moreover when such arrest has taken place in any individual there is no evidence that it ever starts up again. This means, of course, that once a person's mental level is determined there is no known method of changing it.

To use an industrial illustration, intelligence is the possibilities of the thinking machine and knowledge is the nature and quality of the raw material that we must feed into the machine if it is to be of any use in the world.

A person may have considerable knowledge, strikingly displayed perhaps, if it happens to be allied with a good memory, but he may have little intelligence. A low grade intelligence cannot use much knowledge in spite of the fact that it may have a good memory for storing. In a mechanical structure, such as a machine, it is always possible to distinguish clearly between the machine itself or any part of the machine and the raw material fed into it, but in human beings this is not the case, and it is this fact that has led to the frequent confusion in the minds of people between intelligence and knowledge.

But man is something more than an animal with more or less intelligence. He is sometimes joyful, sometimes depressed. Sometimes he will take an insult with a smile, at other times, he will fight. His capacity for varying response is infinite. When we test intelligence, we are testing only part of his total mental make-

up. We are not testing his emotions. We are not testing his ideals, nor his morality, just his intelligence—his brightness or dullness of mind, his native mental alertness and power.

It is possible that, in one of our plants, four men may be working on the same operation, all having the *same intelligence* but each having different value to the company. One may be a sober, steady workman who has been in the company for years. The next man may be a new employe who has traveled from job to job all his life and who probably will pick up and leave for another job very shortly. The next may be a good worker, but unable to get along with his fellows. He is quarrelsome, talkative, a general nuisance. The fourth man may be a good worker on some days and poor on other days. He may have spells of depression when he lacks "pep" and other days of normal output. It is quite possible that the four men would get the same score on an intelligence test, but this would not indicate the relative value of the men to the *company*. These tests do not measure occupational stability, sociability, or moodishness.

All of us have distorted viewpoints about some things. The bootblack standing outside of his shop, who never looks you in the face, but, square in the feet, and hollers "Shine 'em up," if he sees dust and sometimes when he doesn't, probably sees the world as a succession of more or less badly polished shoes moving by his stand.

One man's world was once greatly altered, for a time, by the purchase of a screen door. Having always believed that screen doors were made by hand, he was sent to purchase a door. Then he discovered that these doors came in standard sizes and standard styles. For a week or so, the town in which he lived changed to a town of screen doors. *This* house had a \$2.75 door, *that* one a \$3.25 door; he had put on mental "screen door" spectacles.

When our point of view is repeatedly shifted, or when we put on a sufficient variety of spectacles to envisage a human being, as we should do in all thorough personnel work, we find that the quality of his conduct—and this is essentially his social efficiency—is determined by six things:

First and foremost, by his intelligence—his degree of native ability; then by his temperament, feeling, energy, knowledge and lastly by his power of social adjustment or ability to get along with people and in different situations.

Consciously or not we take some account of these qualities when we size up hastily a man for a given job. It pays, however, to be more deliberate and to make certain that he qualifies primarily as having attained the necessary mental level for the task, while still answering to the other specifications. In so doing we most certainly improve upon the rough guess—"the once-over"—that seems to satisfy those who profess to be shocked at the doctrine of fixed mental levels and who in a professed spirit of charity would rather not face the facts of natural mental limitations. Yet no one will get much success in personnel work who is afraid of the truth.

DEAN R. L. SACKETT (Penn. State College): Children are born with different capacities, but I also believe that their intelligence is improved by selecting the proper kind of education. In my judgment intelligence is a matter of cultivation, experience, perseverance, and the rest of those characteristics on which we place so much importance.

It seems to me that we should make our distinction rather carefully there. It assists us somewhat in determining whether intelligence tests may be of value or not.

In September, 1919, we started to give the Army Alpha tests and later the Carnegie Tech test to all the incoming students in Pennsylvania State College, without placing any very great importance on it. We thought that in the course of time our experience and the tests might correlate and we might be able to use them.

We are not using them now either in excluding the student from entering the college or in excluding him after he has entered, but we have found that in the two years' experience with the one set, and the one year's experience with the second set, that in no instance have we recommended to the President that a student be dropped from the college temporarily or permanently on account of low scholarship, when he had a high intelligence test, except when it could be easily explained. That is, you cannot test a foreign student exactly the same as you can an American student—the foreign-born takes longer to formulate his answers to questions. However, if time was not an element, he would probably do better than a good many American students, but taking the average American high school graduate, it would

seem as if in the future this intelligence test might be of considerable value.

There are differences in students and in making use of the intelligence test, we should recognize the fact that some boys and girls mature with much greater rapidity than others, and that some are going to reach the peak of intelligence and ability early in life, and pass it, and perhaps recede, and that others are going to mature very slowly, and it will be years before they reach the peak of their ability. All of these things should be taken carefully into account.

It seems to me that this is an experimental or laboratory period in the study of intelligence tests, and that intelligence tests may be valuable in the future if we proceed, cautiously, safely and sanely, but we cannot as yet base any logical conclusions upon them.

MR. ARTHUR H. CARVER: I want to say one final word because two or three of the remarks I made previously seem somehow not to have gotten across. The last speaker and myself were talking about two different things. I do not discount the value of experience, training or education when added to native intelligence. I tried to make clear the idea that a very common mistake has been made in overselling what the intelligence test will do. It will only tell us one thing. The last speaker used the word "soil" in his remarks. There is an analogy. If you have a piece of soil to use for a garden, that soil, assuming that you do not put other chemicals into it by the use of fertilizers, has a definitely limited ability to nourish agricultural products. If you use that soil rightly by planting in it the things that is capable of supporting, you will get results. If you plant in it something that it is not capable of supporting you will not get results. The native ability of that soil is fixed by its chemical constituents. It can be improved by the addition of new chemicals through the use of fertilizers, but we cannot add new brain cells to a human brain nor can we change the native quality of brain matter except to cause it to deteriorate. All we can do is to use the "brain stuff," as it has been called, to the best advantage through giving it the education and training that it is qualified to absorb. Native intelligence is not the same as ability, for the latter adds to the former experience and education.

I said in my opening remarks that it was a wooden way to

handle intelligence tests to say of two persons that the one making the higher score is necessarily the better. Better for what? You are testing a variety of mental functions. The higher total score indicates a certain all-around superiority, but an analysis of the scores may show that the lower one is better with respect to the particular mental functions required in any given job than the higher one. Moreover, it often happens that the person with the lower score possesses in a larger degree the other traits necessary to success, such as energy, perseverance, etc. There is no object in telling the employe what score he made on the test, but if we can know it and if that knowledge is used in the right way, we certainly have something to help us in placing people where they will best fit.

MR. J. E. BANKS: The word "psyche," meaning soul, comes from the Greek. The Greeks held in high esteem the thought of the soul, the feel of the soul, distinguishing it from the material body. They considered it as something that had infinite possibilities. In the older German philosophy we have been impressed with the materialistic insistence that the soul, if not in itself matter, is so closely joined with matter that the two are born, exist, and die together. The modern German psychology as represented by Eucken, and the French psychology of the present day, as represented by Bergson, are inclined to the old Greek. These latter feel that there is a basis in the psyche that is not limited by anything that may or can be discovered.

MR. P. E. WAKEFIELD: Most men are reluctant to believe that their capacity for development has definite limits. For, my part, I very much prefer to believe that any failure I may make is due to lack of effort rather than to a fixed capacity for self-development.

Those who maintain that the intelligence of an individual cannot be accurately or dependably measured, frequently seek to support their argument by citing the example of an individual who has been rated low as the result of a test and yet has later proved to be of exceptional intelligence. Such an exception does not disprove the rule, and we should not ignore the fact that for every case where the results of an intelligence test are inaccurate, there are many cases where the tests measure the individual's intelligence with very satisfactory accuracy.

Moreover, many who refuse to use intelligence tests, and

who deny that they are practical, will nevertheless accept their own or some one else's opinion regarding an individual's intelligence. An executive will promote one of his subordinates because he believes the man to be equipped with the intelligence required for a higher position, or will refuse to promote another subordinate because in the executive's opinion the second man does not have the requisite intelligence. Yet this same executive will have nothing to do with intelligence tests, because, as he says, human intelligence is something divine, and not to be measured by means of any scientific or psychological method. Is it not inconsistent, when on the one hand a man is willing to entertain and act on an opinion of a given individual's mental capacity, yet on the other hand is unwilling to attempt a scientific measurement of that individual's mentality?

CHAIRMAN SHAW: I found every psychologist or mental measurement man or educational man I went up against in working up the subject matter of this Committee, a dogmatic Presbyterian. I said to one of them, "Do you mean to say that I am just as intelligent now as I was when I was born?" He replied, "Yes." I then asked, "Do you mean to say my intelligence has not increased since that time, and never will increase or decrease?" and he said, "Yes."

The discussion has not shown any great interest in the use of educational measurement scales in the selection of employes that was intended to be the meat of the whole report, while we have devoted most of our time to the other phase of it. It is the Committee's thought, however, that there is a possibility for more research on these lines, particularly to determine whether employes know whether there is any particular correlation between educational achievement in school, and success on the job. Personally, I have found no employer who has answered that question. They all say, "Yes, we want a boy with a sixth or eighth grade schooling." When I ask, "Do you mean eighth grade intelligence, or eighth grade achievement?" they do not know. It seems to me that this phase of the question offers a particularly fruitful field of study for the coming year.

(The meeting then adjourned.)

TECHNICAL TRAINING

TUESDAY MORNING

PRESIDENT KINCAID, Presiding

PRESIDENT KINCAID: Dean R. L. Sackett, Chairman of the Committee on Technical Training, will present his report.

CHAIRMAN SACKETT: Mr. President, members and guests, the leading points considered in the program of the Committee are set forth in rather concise form in the report. This follows the 1919 report of the Committee rather closely. The Committee this year felt that the program as outlined in 1919 was a very effective one, but had been formulated by the representatives of the industries, practically without conference with the representatives of the technical institutions concerned, so we thought we might perform a service by bringing the representatives of the colleges and institutions together, so the Committee held two conferences in New York.

On the first occasion there were some thirteen or fourteen present, and on the second occasion nearly the same number representing the various institutions interested in this subject. We found also that there was a function that the Association might perform if you feel it is worth while. Two or three of the employing firms suggested that we find out how many graduates there would be in the various courses in engineering and science this year, and how they compared with previous years, so we sent out a questionnaire. Certain information was gathered and sent to the institutions and also to employers of technical graduates.

That suggests, at once, the matter of the Central Employment Bureau. That was the only thing on which the college representatives differed from the industrial representatives, as indicated by the report of 1919. In that report it was suggested that a Central Employment Bureau be established to which all information concerning college technical graduates should be sent, and from which the industries would make their selection.

The representatives of different institutions rather unani-

mously objected to that, feeling that that was in some way a matter of personal contact between the industries and the colleges and the individual graduates. At the same time certain data of a general character were willingly submitted by the institutions. The institutions desire to maintain contact with the industries by letting the industries visit the institutions, and then they felt it was also desirable that the industry should meet the individual students in conference, at least, so far as the industries desire to do so, not with the idea that we should, on a five-minute interview, judge whether we, the employers, desire to employ a graduate, but rather that the interview in connection with such rating, as the college might have made, should lead to employment in this industry, or to employment in another industry, or to selection of one for salesmanship rather than for design.

Many institutions, as the report indicates to you, have more elaborate rating schemes or personnel cards, but it is not suggested that they change their card. This is merely sent out to institutions as a suggestion if they have nothing in the way of rating schemes. We felt that was valuable to the college, because it emphasized the importance of their measuring not merely a man's scholarship, on which perhaps too much emphasis has been placed, and not enough has been placed by the colleges on the other characteristics that you want, in college graduates and in individuals who come to you from the grammar and high schools.

All institutions that were employed in vocational training during the war were impressed by the services performed by rating the mechanics of various kinds whom they handled. They were required by the government to make out a duplicate card rating every man who was trained as a journeyman, or apprentice, or as a skilled man, and the initials of the instructor were on the card, and one of the copies went to the individual soldier himself. We dealt with some 2,500 such men, not college men, but men who had been taken out of the industries and went there for training. Not once did we have an objection, on the part of the man being trained, to a card being given to him. Nor did we have objection on the part of the man that he had not been properly treated, that he had been rated prejudicially or unfairly.

It made the instructor careful in weighing that man's qualities other than scholarship.

Industry is suffering from a temporary, partial paralysis. It has affected, or will affect, the college. This year there have been more students in scientific and engineering colleges than ever before. There is now a decrease in the number of men being taken from the colleges, which, in the course of two, three or four years, will no doubt affect the number graduating. This is a problem that is interesting to you and to us, similar to the problem of the workingman who desires uniform employment, who is anxious about losing his job. How can we stabilize the product of the college for those peaks where the number entering and the number graduating is large, and these valleys, where industry finds, temporarily, at least, it cannot employ them?

It seems a reasonable conclusion that on the average, during the next ten years, we shall have a larger number of technical graduates than we have had during the last ten years. Fathers do not send their sons to take a course in college because of special aptitude or inherent qualities shown in the young men. They go, or rather are allowed to go, because there seems to be an unusual opportunity in one direction or in another. What can we do towards stabilizing the production? The major problem in this business of cooperation seems to me to be what Mr. Shaw called in a letter to me recently, "vocational selection."

A year ago last September we tried to interview 850 freshmen entering this particular institution, to assist them in deciding on the thing they were to do. Many of them had decided, but we were not quite sure that their decision was correct. We did not ask merely for those who were uncertain, but we interviewed them all. We were not, of course, experts at the business. We did not employ psychologists on the job, but we did have the benefit of the assistance of the heads of departments, men who were familiar with the attributes that would make the young men successful in their various lines of work. We felt that it was not only a dangerous thing for us to attempt to do, but that we could not select the thing that a boy should do, or go contrary to his own initiative. The boy is very limited in his experience at that time, and even at the time he graduates is limited in his experience. While the percentage of graduates of technical schools who change from the general line, say, of

engineering, to other pursuits is small, a considerable percentage do change from one course to another. In vocational guidance we are sizing up a man to see whether, in our judgment, he would make a better salesman than a designer; whether he has, perhaps, the making of an executive, and there we are weakest in our ability to judge, because there is very little in a college course that assists the boy towards executive lines of effort, or assists us in judging of any innate executive ability that he may have.

This business of vocational guidance that concerns you and concerns us is the crux of the whole matter. Select men and put them into occupations where they can do the greatest service, and where they will make the best citizens.

COMMITTEE ON TECHNICAL TRAINING

MR. R. L. SACKETT, *Chairman*

THE PENNSYLVANIA STATE COLLEGE
State College, Pa.

MR. P. W. TOWSLEY

BRIGHTON MILLS
Passaic, New Jersey

MR. G. H. PFIEF

GENERAL ELECTRIC COMPANY
Schenectady, New York

MR. W. M. SKIFF

NATIONAL LAMP WORKS, GENERAL
ELECTRIC COMPANY
Nela Park, Cleveland, Ohio

MR. J. L. PRINCE

THE NEW YORK EDISON COMPANY
Fifteenth Street and Irving Place,
New York, New York

[The body of the document contains extremely faint, illegible text, likely bleed-through from the reverse side of the page. The text is organized into several paragraphs, but the characters and words are not discernible.]

SYNOPSIS OF THE REPORT

Duties.—To continue the study of means by which employers of technical graduates and the technical schools may be brought into closer and more effective cooperation

The Committee confined itself to technical or scientific institutions of collegiate or university rank.

A. Closer individual contact of representatives of the industries with the technical schools is desirable.

1. By representatives of the industries visiting the technical colleges to acquaint themselves more fully with courses and present methods of instruction.

2. By the industries making use of the student inspection trips to give short talks to groups of student visitors on the principal features of that industry and the particular plant.

3. By group conferences on questions of mutual concern, such as those indicated below.

B. Improvement in Collegiate Training.

1. By group conferences of technical representatives of the industries held at the various technical schools from which they select men.

2. By closer cooperation in arranging summer employment for undergraduates.

3. By reports from the industries to the colleges on the summer training of undergraduates and the progress of graduates.

4. By the industries loaning latest types of apparatus to technical schools for laboratory use.

5. By closer coordination of undergraduate instruction and the training received in the industries immediately after graduation.

C. Selection of Men.

1. Improvement in present methods by the colleges pre-

paring an advance record and judgment of the ability of each Senior, and

2. An estimate of the work for which he is best fitted.

3. By follow-up records of graduates supplied by the industries to the colleges as a check on such estimates.

4. A central employment bureau or clearing house not yet feasible.

REPORT OF THE COMMITTEE ON TECHNICAL EDUCATION

The Committee has followed the main lines laid down by the Reports of the Committees of 1918 and 1919. It has been the particular aim of this Committee to bring representatives of the colleges and universities together for conferences in order to obtain their opinions on a few of the most important questions.

The first conference was held on December 7th at the 'United Engineering Societies' Building, at which there were present sixteen representatives of technical schools and four of the Committee. The above conference was held in connection with the annual convention of the American Society of Mechanical Engineers, and departments of Mechanical Engineering were therefore largely represented. The second conference was held on January 19th just preceding the opening of the annual meeting of the American Society of Civil Engineers. There were present twelve representatives of technical departments of colleges and universities, principally civil engineering.

The following letter is self-explanatory and indicates that a central bureau might do good service by collecting certain facts from the colleges and universities concerned and distributing the same to the industries employing technical graduates. The circular containing answers was sent to a number of the industries. It is suggested that this subject might be handled each year by the secretary.

November 24th, 1920.

Dear Sir:

At the request of several large employers of technical graduates, the Committee on Technical Training of the National Association of Corporation Training is sending out the following

request for information which can be made available to all corporations who are members of the Association through its monthly publication. The main purpose of the above committee this year is to provide for closer cooperation between the Engineering colleges and the industries employing their graduates.

If you believe this to be a step of value to both parties, will you please return the following before December 1st.

1. How many seniors are there in
Architectural Engineering
Civil, Sanitary, Highway Engineering
Chemical Engineering
Electrical Engineering
Industrial Engineering
Mechanical Engineering
2. How many will graduate at mid-year?
3. About how many of your seniors have made definite plans for employment, and are, therefore, not looking for positions?
4. How does the class as a whole compare in all around ability with previous classes?
5. When would you prefer to have the representatives of employing industries visit your institution?
6. The suggestion has been made that the time of representatives and of faculties and students would be saved if some form of simple, uniform record for technical seniors were adopted. "Ten men are interviewed to obtain one." "I was the twenty-seventh industrial representative to appear at that place (technical college) last spring."

In your judgment is it practicable to prepare a uniform record for each technical senior for the consideration of representatives before they visit the institution?

Return to:

R. L. SACKETT,
Chairman Committee on Technical Training,

State College, Pa.
December 15th, 1920.

Dear Sir:

Several of the largest employers of technical graduates sug-

gested the desirability of obtaining information concerning the number graduating mid-year and in June next.

1. The following replies were received:

Number of Seniors.

	Arch., Eng. or Arch.	Civil, Sanitary, Highway Engineers	Chemical Engineer	Electrical Engineer	Industrial Engineer	Mechanical, Railway Mechanic	Mining, Metallurgy	Science
Case School	—	14	—	17	—	29	22	32
Columbia	—	2	19	6	—	7	10	—
University of Illinois.....	37	33	—	54	—	55	8	—
Iowa State College.....	10	29	16	29	—	24	3	—
Johns Hopkins	—	15	14	17	—	12	—	—
Lehigh University	—	24	27	12	—	23	31	—
University of Maine.....	—	19	12	21	—	16	—	6
Michigan College	—	27	5	15	—	21	—	—
University of Minnesota.....	—	35	28	44	—	26	—	—
University of Missouri.....	—	17	2	28	—	10	—	—
Penn State	6	23	22	69	36	49	24	24
University of Penn.....	—	31	22	19	—	29	—	—
Purdue University	—	58	43	55	—	70	—	—
Rensselaer P.....	—	45	36	32	—	31	—	8
Stevens	—	—	—	—	—	125	—	—
Virginia Poly.	—	18	8	13	5	17	—	—
Worcester	—	6	17	29	—	16	—	—

2. Only a few will graduate at mid-year.

3. Very few have already accepted positions.

4. How does the class as a whole compare in all around ability with previous classes?

The answers ranged from "about the same," "Better than last year, but not as good as before the war," to "somewhat better." None claimed the present to be superior to prewar classes. The composite answer is "average to good."

5. When would you prefer to have the representatives of the employing industries visit your institution?

The answers were "anytime after first of January;" "about middle of spring;" "cease visits, demoralizing to classes, let faculty recommend;" "spring quarter;" "first of March;" "February;" "Tuesday, Wednesday, Thursday at and after 4:30."

The average time mentioned in March. The smaller institu-

tions welcome or do not object to visits of representatives. This sentiment was emphasized at the conference December 7th.

A few of the largest feel that some economy of time and reduced interference with classes is desirable and attainable.

6. The suggestion has been made that the time of representatives and of faculties and students could be saved if some form of simple, uniform records for technical seniors were adopted.

Those present at the conference rather favored the idea while some by correspondence opposed the idea as being too much labor for the service it would probably perform.

The committee appreciates the cordial and prompt replies received. This report is being sent the schools which replied and to the principal firms employing technical graduates.

R. L. SACKETT, *Chairman,*
Technical Training Committee,

National Association of Corporation Training.

A. 1. It is believed that if the representatives of the industries visiting the technical colleges would take the time to inform themselves more fully concerning present methods of instruction in that particular institution, it would lead to a better understanding of Technical Education. In the Report for 1919 the Committee urged that the technical schools and colleges be brought into touch on practical problems. This Committee wishes to emphasize the importance of bringing the industries into closer contact with the technical schools.

2. At the present time the inspection trips include a hasty tour through a plant often led by guides who may know much of one department, but little of the plant as a whole. It would add to the interest and give point to the trip if there were arrangements for a short talk to be given to the whole group before entering the plants, emphasizing the particular features of that industry and perhaps indicating the kind of technical men which they employ. It is often difficult for the guide to talk to a group in a plant on account of the noise, or lack of space to get his group together.

3. A number of institutions have already found it helpful to have conferences of professors, heads of departments, and deans of technical schools with representatives of the industries

on questions of mutual concern. These conferences may be held at an institution with faculty representatives of the institution present, or conferences of representatives of several institutions with representatives of the larger industries employing technical men may consider problems of general interest.

B. 1. A number of institutions have held such conferences and found them to be of great value because of the better understanding that each group has obtained of the problems of the other.

2. For instance, it is generally agreed that closer cooperation is desirable in arranging summer employment for undergraduates, but conditions differ. Some institutions already have a cooperative scheme in operation. Others do not require, but suggest summer employment of a practical character; and still others require a specified amount. All educational representatives who attended the conferences and those with whom the Committee has corresponded agreed that systematic summer employment for Juniors, at least, was desirable. Some questioned whether it was worth while to discuss with the industries the employment of students having less than three years of educational training. The point of view of some of the industries was understood, that is, they object to taking students who were uncertain as to their probable line of work and had little training which would make them serviceable for short time employment. One corporation which has not previously employed undergraduates says, "Last year, however, we did ask some of our utility properties to employ college engineering juniors for summer vacation work and the plan seemed to work out quite satisfactorily." Another which employed junior engineers for the first time last summer reports the experience as mutually satisfactory and from the juniors they are now selecting the graduates they propose to employ, and are selecting a second group of juniors.

Another representative of one of the largest employers of engineering graduates says, "The main difficulties in the way of cooperation of this kind are: First, the average shop executive is not keen about taking on men for short periods. Second, the juniors and undergraduates come into the organization just at the time that the jobs containing the most experience are needed for the graduates. Third, the value of the undergraduates, con-

sidering the length of time it takes to learn the work and the fact that his interest lies in doing rather high grade work, is hardly sufficient to economically cover traveling and living expenses and there is the possibility that the students may look on such employment more as a means of securing financial help than of securing experience.

"The main advantage is: Some preliminary contact between the industry and the undergraduate as a means of determining on the one hand the desirability of the undergraduate for future employment and on the other hand some knowledge of the industry as a basis for the selection of his work and as an aid to the better understanding of the engineering problems during his senior year. Undoubtedly the ultimate decision will have to depend, to some extent, on the ability of industry to absorb men during this period; a factor which at the present time is variable."

In one conference the point was emphasized that a larger number of industries was introducing systematic training for college graduates and the earlier this training was undertaken and completed, the better it was for the graduate and for the industry. Some of this training could be completed in the vacation following the Junior year, if not in the vacation following the Sophomore year, thus advancing the student in his training course by some three months. One industry reports particular success with its Juniors. It was argued by some of the industries that the students whom they took in summer vacation were more of a liability than an asset and in many instances they would not return to that industry after graduation. The fact remains that they will have received preliminary training of value to them and to the industry to which they go. It may be assumed that summer work for the undergraduate is not profitable to the industries, and yet that it is a desirable thing to do because the student at an earlier date obtains practical ideas, a better knowledge of that industry, and is better prepared to decide on whether he desires to continue with that industry or not. In other words, the industries are taking the responsibility for advanced training, the cost of which is a part of the selling price of their product. The earlier this training is accomplished, the better for all parties.

3. Those institutions which have cooperative system of training in which the student alternates between a period in the school

and a period in the shop have systematic methods of preparing records of the student's progress in shop work. Those institutions which require a certain amount of summer employment should likewise organize and receive from the industry systematic records of the student's progress and their judgment as to the line of work for which he is best fitted.

It would also help if reports were received from the industries concerning the progress of graduates in order that the judgment of the college as to the student's potential ability might be checked by the judgment of his employer.

4. Previous reports have emphasized the importance of the industries loaning or selling to technical schools at reduced cost the latest types of apparatus manufactured, in order that their laboratory apparatus may represent the latest developments as well as equipment now generally in use.

5. The increased number of industries giving organized training to graduates immediately upon their employment suggests the importance of closer coordination between undergraduate instruction and the technical courses given in the industry. At present there is a great diversity in method, in purpose, and in results obtained by the industry. This work is past the experimental stage and it is now generally recognized that such training is of very great value. The subject is submitted for discussion with the statement that the Committee believes the efficiency of both college and industrial training would be greater if this subject received more careful study. A conference of those employing engineering graduates and the engineering schools on this particular subject would be of great value.

C. 1. In the Report for 1919 a number of "Personal Report Forms," as used by various corporations, and "Student Personnel Forms" were included. In the course of our conference it was found that several institutions were considering the use of a Student Record Card which would make an estimate of the student's qualifications available to the representatives of the various industries when they visited the institution. Figure 1 and the reverse side Figure 2 was suggested as a simple yet serviceable form for use where an institution had not already adopted a more elaborate one. The report should be simple, should show "who was responsible for record, should show

physical, mental, moral, personal and trade qualities." It was suggested that "decision" should be included; also "imagination." A number of other Personnel Card Forms follow, including Student Record Forms as used by the industries.

2. A number of institutions are now attempting to judge from the general record of the student the class of work for which he is best fitted, and it is desirable that a larger number of institutions should study this subject. The value of such estimates can only be measured when the degree of success which a student has attained in an industry is known. For this reason, if for no other, systematic reports from the industries concerning the progress of graduates are important. Such estimates are of value to the college because they emphasize to the teaching faculty the fact that other characteristics than scholarship, reliability and speed are important in determining upon the probable success of a graduate.

3. It was the consensus of opinion of the representatives of technical colleges that a central bureau of employment for college graduates was not yet feasible, but that the colleges should and were trying to assist the industries in the selection of men. Closer cooperation in this direction is desirable. It was stated by one that "students not well qualified had been selected by _____ industry" without asking the judgment of the head of the department. Various details were mentioned which indicate that closer cooperation is desirable and possible. Certainly the faculty judgment should be requested, and the colleges indicated a willingness to cooperate further if their judgment was desired.

A number of institutions particularly those of medium size opposed the central clearing house because they desired to continue the present pleasant personal relations with the representatives of the industries. Secondly, the central clearing house would tend to reduce the human touch. It is considered desirable by the majority that the student applicant should be interviewed and the judgment of the faculty obtained on the spot.

The college and university faculties represented at the conferences and all with whom the Committee corresponded expressed the greatest interest in the purpose of the Association and desired to cooperate more closely.

APPENDIX

STUDENT PERSONNEL CARD

The Pennsylvania State College.

Name	<div>PHOTO HERE</div>
Home Address.....	
Date of Birth.....	
Year of Advanced Graduation Degrees	
College Activities	
.....	
.....	
Member of what societies	
.....	
.....	
Rank in class at graduation Athletic Record	
How did you spend summers?.....	
.....	
.....	
.....	
Physical defects.....	
.....	

FIGURE 1

INSTRUCTOR'S OPINION

Scale: 1—Excellent; 2—Good; 3—Fair; 4—Poor; 5—Very Poor. Instructors will place initials in column indicating their judgment.

		1	2	3	4	5
Personal Qualities	Character					
	Personality					
	Aggressiveness					
	Tact					
	Self Reliance					
Technical Ability	Technical Skill					
	Accuracy					
	Ability to Speak					
	Ability to Write					
	Draftsmanship					
Best Fitted for:						
(Use "Construction," "Design," "Manager," "Research," "Sales," "Teacher.")						

FIGURE 2

[illegible]

FIGURE 3

[illegible]

FIGURE 4 (Reverse of Figure 3)

FIGURE 5

FIGURE 6 (Reverse of Figure 5)

POLYTECHNIC INSTITUTE OF BROOKLYN ADVISER'S RECORD		
Name _____	Address _____	
Age _____	High School _____	Registered for course in _____
Scholarship at school; strong points; weak points; particular educational interests:		
Past record in student affairs; special interests:		
Personal traits; health; etc.		
Finances; special difficulties of any kind.		
General remarks		

FIGURE 7

RECORD OF INTERVIEWS (FOR MEMORANDA OF ADVICE GIVEN TO STUDENT AND FOR RECORD OF HIS PROGRESS)	
Date	
Date	
Date	
Date	
Date	

FIGURE 8 (Reverse of Figure 7)

PURDUE UNIVERSITY **STUDENT'S PERSONNEL RECORD**

Form B—INVENTORY OF CHARACTERISTICS.

Name _____ Class _____ Course _____

NOTE.—Indicate the qualities applicable.

	FRESHMAN		SOPHOMORE		JUNIOR		SENIOR	
	Grade *	No.†	Grade *	No.†	Grade *	No.†	Grade *	No.†
I. NATURAL ABILITY AND MENTAL CHARACTERISTICS:								
1. ACCURACY: (Is observation, in work, in expression; has sense of proportion) _____								
2. APPLICATION: (Always busy, persistent, interested in his work) _____								
3. ATTITUDE: (Self-controlled, self-reliant; opinionated, quarrelsome, contentious, aggressive, conciliatory, timid) _____								
4. COOPERATIVE ABILITY: (Can work with others, willing to learn, accommodating, team interest before self-interest, tolerant) _____								
5. COOPERATIVENESS _____								
6. DISPOSITION: (Good natured or gloomy) _____								
7. EFFICIENCY: (Has energy, memory, is expeditious, has no lost motion, works with ease, plans work, is able to produce results) _____								
8. HABITS OF WORK: (Temperamental, punctual, practical, systematic, works to limit or saves himself; persistent, resourceful, routine man; slow or rapid) _____								
9. INITIATIVE: (Takes the lead, sets plan, has vision and rational originality) _____								
10. JUDGMENT: (Has observing power, common sense, foresight, can think, is practical, fair minded and discriminating) _____								
11. LEADERSHIP: (Has executive ability, commands respect, understands men) _____								
12. MENTAL CALIBER: (Has capacity to learn, knowledge of facts and data, has imagination, power of concentration, is quick in perception, is alert, is able to grasp processes and procedures) _____								
13. OUTLOOK: (Enthusiastic, optimistic, conservative, cautious, doubtful, pessimistic, has habit of recognizing and grasping opportunity) _____								

OVER

FIGURE 9

	FRESHMAN		SOPHOMORE		JUNIOR		SENIOR	
	Grade *	No.†	Grade *	No.†	Grade *	No.†	Grade *	No.†
14. SENSE OF RESPONSIBILITY _____								
15. TACT _____								
II. MORAL AND SOCIAL CHARACTERISTICS:								
1. ADDRESS: (Congratulating, cautious, direct, abrupt, brusque, irritating; leaves good or poor impression) _____								
2. CHARACTER: (Yielding, weak, firm, strong, obstinate, positively moral) _____								
3. DEPENDABILITY: (Conscientious, reliable, honorable, unreliable, tricky) _____								
4. MANNER: (Trustful, guarded, suspicious, jealous, envious) _____								
5. POPULARITY _____								
III. PHYSICAL CHARACTERISTICS:								
1. COUNTENANCE: (Pleasant, serious, open, strong, secretive, weak) _____								
2. DRESS: (Showy, stylish, tasteful, ill chosen, neat, careless) _____								
3. DEFORMITY: (Indicate if any) _____								
4. FIGURE: (Erect, dignified, round shouldered, slouchy) _____								
5. HEALTH: (Vigorous, lacking, endurance, vitality, nervous stability, physique) _____								
IV. OTHER DATA:								
1. Use of English in oral expression _____								
2. Use of English in written expression _____								
3. HANDWRITING: (Firm, business-like, illegible, careless) _____								
4. Faculty or Committee Action _____								
5. _____								
6. _____								

* The meanings of the grades are: A—Conspicuous for excellence; B—Above average; P—Average; C—Below average; D—Poor.
 † No. refers to the number of reports upon which average was based.

FIGURE 10 (Reverse of Figure 9)

[illegible]

FIGURE 11

Form D

PURDUE UNIVERSITY

CONFIDENTIAL REPORT CONCERNING STUDENT'S PERSONALITY

Name _____

Home Address _____

NOTE: Check each of the following qualities under excellent, good, average, below average, or poor. Please do not grade any quality about which you are in doubt. Underline the qualities applicable.

	Excellent	Good	Average	Below Average	Poor	REMARKS
I. NATURAL ABILITY AND MENTAL CHARACTERISTICS:						
1. ACQUAINTANCE: (In observation, in work, in expression, has sense of proportion)						
2. APPLICATION: (Always busy, persistent, interested in his work)						
3. ATTITUDE: (Self-controlled, self-reliant, opinionated, quarrelsome, combative, aggressive, conciliatory, timid)						
4. COOPERATIVE ABILITY: (Can work with others, willing to learn, accommodating, team interest before self-interest, tolerant)						
5. COUNTRY						
6. DISPOSITION: (Good natured or gloomy)						
7. EFFICIENCY: (Has energy, memory, is expeditious, has no lost motion, works with ease, plans work, is able to produce results)						
8. HABITS OF WORK: (Temperamental, punctual, practical, systematic, works to limit or save himself; persistent, resourceful, routine man; slow or rapid)						
9. INITIATIVE: (Takes the lead, can plan, has vision and rational originality)						
10. JUDGMENT: (Has observing power, common sense, foresight, can think, is practical, fair minded and discriminating)						
11. LEADERSHIP: (Has executive ability, commands respect, understands men)						
12. MENTAL CALIBER: (Has capacity to learn, knowledge of facts and data, has imagination, power of concentration, is quiet in person, is alert, is able to grasp processes and procedure)						
13. OUTLOOK: (Enthusiastic, optimistic, conservative, cautious, doubtful, pessimistic, has habit of recognizing and grasping opportunity)						
14. SENSE OF RESPONSIBILITY						
15. TACT						
II. MORAL AND SOCIAL CHARACTERISTICS:						
1. ADDRESS: (Imparting, cautious, direct, abrupt, brusque, irritating; leaves good or poor impression)						
2. CHARACTER: (Yielding, weak, firm, strong, obstinate, positively moral)						
3. DEPENDABILITY: (Consistent, reliable, honorable, unreliable, tricky)						
4. MANNER: (Trustful, guarded, suspicious, jealous, envious)						
5. POPULARITY						
III. PHYSICAL CHARACTERISTICS:						
1. COMPLEXION: (Pleasant, serious, open, strong, sensitive, weak)						
2. DRESS: (Showy, stylish, tasteful, ill chosen, neat, careless)						
3. DEFORMITY: (Definite if any)						
4. FIGURE: (Slender, stocky, round shouldered, slouchy)						
5. HEALTH: (Vision, hearing, endurance, vitality, nervous, stability, physique)						
IV. OTHER DATA:						
1. Use of English in oral expression						
2. Use of English in written expression						
3. HANDWRITING: (Firm, business-like, English, careless)						

DATE _____

Name of Informant, if he does not object _____

FIGURE 12

INTERVIEW BLANK
GENERAL ELECTRIC COMPANY

Name in full _____ Color _____

College address _____

Home Address _____

Date and place of birth _____

Fathers birthplace _____ Fathers occupation _____

Height _____ Weight _____ Single or married _____

What per cent. of college expenses have you earned? _____

How did you spend summer vacations after:

Freshman year _____

Sophomore year _____

Junior year _____

Have you any physical defects? _____

Student activities:

Athletics _____ Glee Club _____

Band _____ Honorary Fraternities _____

Class officers _____ Social Fraternities _____

Record of Professor _____

	Excellent	Good	Fair	Poor	
Scholarship					
Industry					
Aggressiveness					
Accuracy					
Self-reliance					
Common Sense					
Personality					
Initiative					

GO 485 Am 3-14-30

FIGURE 13

This space for filing only.

STUDENT RECORD

EDUCATIONAL DEPARTMENT

Westinghouse Electric & Manufacturing Company
East Pittsburgh, Pa.

NAME IN FULL _____ APPROVED BY _____

LOCAL ADDRESS _____
NAME OF FAMILY _____ HOUSE NO. _____ STREET _____ CITY _____ TELEPHONE NO. _____

COURSE _____ STARTED _____ 192_____

DATE OF BIRTH _____ HEIGHT _____ FT. _____ IN.; WEIGHT _____ LBS.

PLACE OF BIRTH _____ NATIONALITY OF ANCESTORS _____ MARRIED OR SINGLE _____

PREPARATORY SCHOOLS AND COLLEGES ATTENDED	COURSES TAKEN	NO. YEARS	YEAR GRADUATED	DEGREE

SCHOLARSHIP RECORD (YOUR OPINION) _____ SCHOLASTIC HONORS _____

YEAR	PART TAKEN IN STUDENT ACTIVITIES	OFFICES HELD
1ST		
2ND		
3RD		
4TH		
5TH		

PREVIOUS EXPERIENCE INCLUDING REMUNERATIVE WORK DURING VACATIONS AND COLLEGE PERIODS

END OF WORK	WITH WHOM	WHERE	HOW LONG

NAME AND ADDRESS OF FATHER OR NEXT OF KIN _____
NAME _____ STREET _____ CITY _____ STATE _____

FATHER'S BUSINESS IN ACTIVE LIFE _____

Do not write below this line.

COLLEGE RECORD DURING SENIOR YEAR. QUARTER OF CLASS ☐

REGISTRATION _____ DATE _____ 192_____

REMARKS _____

FIGURE 14

		TRAINING PERIOD										Regular Men		Standing in group of _____ men in _____ 192 _____ School, as determined by students in the group.	
		DEPARTMENT					Educational Department					Department Managers			
Section _____															
Graded by _____															
Date _____															
Application	Lazy													Low 3d	
	Fair Worker													Middle 3d	
	Industrious													High 3d	
Workman-ship	Careless													Low 3d	
	Fair													Middle 3d	
	Accurate													High 3d	
Interest	Indifferent													Low 3d	
	Interested													Middle 3d	
	Enthusiastic													High 3d	
Conduct	Trouble Maker													Low 3d	
	Well Behaved													Middle 3d	
	Very Courteous													High 3d	
Intelligence	Dull													Low 3d	
	Intelligent													Middle 3d	
	Keen													High 3d	
Cooperation	Antagonistic													Low 3d	
	Individualistic													Middle 3d	
	Team-Worker													High 3d	
Decision	Vacillating													Low 3d	
	Deliberate													Middle 3d	
	Quick													High 3d	
Initiative	Retiring													Low 3d	
	Resourceful													Middle 3d	
	Aggressive													High 3d	
Reliability	Unreliable													Low 3d	
	Doubtful													Middle 3d	
	Dependable													High 3d	
Physical Qualities	Delicate													Low 3d	
	Normal													Middle 3d	
	Robust													High 3d	
Knowledge of Work	Superficial													Low 3d	
	Well Informed													Middle 3d	
	Thorough													High 3d	
General Average in Class Work: _____															
Score in General Intelligence Test: _____															
Score in Technical Information Test: _____															
Aptitude, Indicated by "Record of Interests": _____															
Remarks: _____															

Course Completed 192 Disposition _____															
Left Course 192 Reason _____															
Diploma Delivered 192 Composite Rating by Graduate Student Committee: _____															

FIGURE 15 (Reverse of Figure 14)

Form 51-A-1000 3-21 1M (E1228)

STUDENT RECORD
NATIONAL LAMP WORKS
 OF GENERAL ELECTRIC CO.
 ENGINEERING DEPARTMENT

Date of interview _____ 192__ School _____ Course _____ Class of 192__

Name in full _____ Married _____ Single _____ No. of Dependents _____

College Address _____
Street No. City StateAge _____ Height _____ Weight _____ Nationality of { Father _____
 Mother _____Father living? _____ Mother living? _____ How long since deceased of { Father _____
 Mother _____

Father's Name _____ His Business _____

Father's Residence _____
Street No. City State

What per cent of your college expenses have you earned? _____

Have you earned money during the school year? _____

Time Employed	Give outline of practical experience including summer vacation work

Have you a college debt? _____ How much time have you lost by sickness in the past five years? _____

What was the nature of your illness? _____

Do you wish to place an application with us now, with the understanding that we will expect you to report for duty at a date to be agreed upon if we notify you within three weeks that your application has received favorable action? _____

When can we expect to hear from you as to whether or not you would like to be considered an applicant? _____

FOR FILING PURPOSES ONLY

Rating by	M member		School No.	M or E	Date expected
Rating by	S member				Date entered
Rating by	E member				Assigned to

FIGURE 16

Activities in Student Organizations, Class Recognition, Honors, Musical Clubs, etc.

Activities in Clubs, Societies, Fraternities

Activities in Athletics or Physical Training

Which studies do you prefer?Which do you dislike?

What is your class standing as a student?

What do you hope to be doing ten years hence?

Is there anything you would rather have than money?

Through what means do you hope to gain advancement?

Can you manage people well?What is your difficulty in this respect?

Do you like to be with people?How many intimate friends have you?

Do you make friends readily?Can you take a joke on yourself?Joke others?

Do you consider yourself careful?Accurate?Courteous?

Cheerful?Patient?Industrious?

Have you any hobby? If so, what?

Student's preference — CommercialManufacturingEngineeringResearch

IMPRESSIONS	1	2	3	4	5
Personality					
Refinement					
Perception					
Imagination					
Decision					
Action					
Aggressiveness					
Tact					
Scholarship					
Popularity					
Fairness					
Breadth					
Health					

Color of eyesGlasses

ComplexionColor of Hair

Comments:

NOTE: M member check O S member check X
E member check ✓ under "Impressions"

FIGURE 17 (Reverse of Figure 16)

MR. W. D. STEARNS (Westinghouse Electric & Mfg. Co.): I have been interested both in reading the report and hearing the remarks made this morning, particularly because at the Westinghouse plant we have been trying, within the last few years, a new method of training graduate students, as we call them, for factory management. As you know, for many years the Westinghouse Company has maintained an extensive course for training college graduates for the sales and engineering departments. When it became necessary to train men for the factory organization, for production men, cost men, time study men, and men in industrial management work, we simply had a hit-or-miss method of taking some of the men who had applied to us for training in the engineering or sales departments, and giving them a regular job.

I am wondering if I can get in touch with some people here who have had this same problem of training men after they come from college, in the industrial end of the business.

I am especially interested in the type of man to take for that kind of work. We have to interview fifty or sixty men—mainly people who come with the idea of taking engineering or sales work, and it is sometimes difficult to sell to the engineer the fact that there is opportunity in factory management. Most men coming from college seem to feel that they have been fitted primarily for engineers. They do not seem to realize that in factory management we also need men with an engineering training.

We need men with an engineering training, because, personally, I do not think there is any other training that teaches a man to think for himself and get all the facts and arrange them in logical order, and be sure they are facts, discarding those that are not needed, and then drawing true conclusions and getting some one else to do the work. I think that is about what is needed in industrial management. I should like to know if anyone here has a similar course.

It is a rather unusual course. The men are interviewed by our educational department, and are told of the three main courses—engineering, sales and factory management. We are only taking ten students for this training out of a possible total of 250 who are taken every year. Those who in an interview at college express a desire for factory management, are interviewed

again, after they come, and chosen or not chosen, depending upon what seems to be the view of the men in the department who are interviewing them. They are put in the shop two months as regular workmen, as we feel that the men should give as much time as possible to the gaining of actual shop experience. It means in their case that they must come in at 7 o'clock and check up on the check board, and work just the same as the regular men work. At the end of that time they are routed through the shop planning and scheduling department, through the cost department, through the time-study and rate ethics department, through the shipping, storekeeping and employment departments and through the miscellaneous departments. This is all regular factory office work, and the men are on regular jobs and transferred every month or two.

While the men are getting the two months' work on the floor and the ten months' work in the shop offices, classes are held twice a week from 10 to 11:30. These classes are run with the idea of developing the men themselves rather than with the idea of handing them some information.

The men are divided into three groups and rotate in taking charge of the meetings. We have a very good works library, to which the men have access. The group leader plans the meeting and leads the meeting and the discussion. I have no part in it, simply acting as a visitor, and now and then I ask questions.

We find so far that the work has proved very satisfactory. After we have discussed a certain problem for two or three meetings, we have a man who is an authority on the subject come in and answer questions that have accumulated during the previous discussions.

MR. L. A. HARVEY (The Texas Company): Has any thought been given on the part of the various Institutions to the training of Lubrication Engineers. That is a subject in which the oil companies are especially interested. They are interested of course in Construction Engineers; but our specialty for technical men is Lubricating Engineering. It seems to me there is a real growing need in the industrial world for Lubricating Engineers. The list submitted shows many varieties of Engineers, but there is no place given for Lubricating men. It seems to me that this is one of the fields that should be covered and covered very definitely and thoroughly by our educational institutions.

Mr. R. S. CAREY (Westinghouse Electric & Mfg. Co.): For the information of the last speaker, I might state that Rice Institute at Houston, Texas, under the direction of Prof. Pound, is making an effort to develop not what may be called lubrication engineers but oil engineers. It is possibly within the province of anyone who is interested in this matter to limit the training of the engineer to the matter of lubrication, rather than the production of oil.

PROF. S. R. PRITCHARD (Virginia Polytechnic Institute): We are interested in this question that you are discussing. I have not any criticism to make on the report of this committee—it looks good to me. We shall be very glad, indeed, to cooperate in every way with the industries. We fully endorse the report that the gentleman has made this morning.

I was a little in doubt as to one or two points in connection with this rating card, but the Dean has relieved my mind very considerably by his remarks concerning them, for instance, as to the managing and research or matters of that sort, it will be rather difficult, it seems to me, for the instructors in the technical schools to form very much of an idea as to the ability that a man may have as a manager, for the reason that there is no opportunity that I can see in the schools for such ability to manifest itself, except, perhaps, in connection with the general student activities.

We shall be very glad, indeed, to cooperate in every way with the industries. We realize that the men we are training are to be used by you, and we are anxious to give them such training as will make them most useful to you. From our point of view the main thing that the technical schools can do and should do is to ground the students thoroughly in fundamentals, and not try to give them too much detail instruction, and then to send the graduates to the industries to get the more practical phases of their training.

I was very much interested some time ago when a Westinghouse representative came to us. The company had in previous years asked us to rate the men about to graduate in various ways, but this representative said, in speaking to the students, that the company would prefer to have the student come to them with an open mind, that it was their observation that the man who came with some fixed idea as to the particular line of work that

he should take up was the last man they succeeded in placing. The young man thought he wanted to do one definite thing, perhaps it was the thing for which he was least well qualified, and what they preferred, at that time, to have him do was to come and look over the situation, and let them look him over, and in that way they found they would be better able to place him where he really belonged.

MR. L. L. PARK (American Locomotive Co.): I should like to ask Mr. Stearns if the policy of having the student come with an open mind, rather than a definite idea of at what he wants to work, is in effect at the present time.

MR. STEARNS: I do not represent the educational department. I am in the works department and have charge simply of those men who are in training for the works department. The men referred to go to the educational department. Mr. Coler is manager of the educational department. I think there is a decided opinion among some of the members of the organization regarding this matter—some men feel that it is better for a man to know at once or, at any rate just as soon as possible, the distinct line of work he is going to follow—others feel it is impossible for him to get a broad enough viewpoint in college to be sure whether he wants design, research, application, or installation engineering or service, sales or manufacturing work.

My own feeling is that it is pretty hard for a man to tell just what he wants, and men coming to us should stay for six months or a year before they begin to find themselves. I should like to see it made possible for a man to stay six months before he decided in what department he wished to go. This is not possible—the men themselves are not willing to spend sufficient time. They feel they do not want to take a post-graduate course in industry after they finish the four-year course in college and they want to “get on the job” as soon as possible.

MR. N. C. MILLER (Pennsylvania State College): I feel that there is one thing that is being passed over, and that is rather important. On the first page of the report Dean Sackett says: “Closer individual contact of representatives of the industries with the technical schools is desirable.” The method that is offered to bring that about is given as follows: “By representatives of the industries visiting the technical colleges to acquaint themselves more fully with courses and present methods

of instruction." I might go even a step further and point out that this industrial representative should go back to his firm and acquaint his department heads with these needs concerning the technical methods of instruction, etc.

In the extension work at Pennsylvania State College, I am continually visiting the industries, and although not particularly interested in the outcome of the efforts of the college students in the industrial world, naturally that thing comes up for a great deal of discussion. Probably the most important criticism I continually hear is that the college student has not been particularly prepared for some specific job. I talked with the chief draughtsman, and he says, "The student has not been prepared so he can come in here and can do this job," and the foreman of the time-study department, or the cost accounting department will make similar remarks. The foremen are not college men and do not seem to have an idea of what the college man should be. You men do not expect a college man to be able to handle these things as soon as he steps into a job, but the heads of departments and the foremen frequently do, and that is one of the things that causes quite a lot of trouble.

MR. WILLIAM E. WICKENDEN (Western Electric Company): I wish to compliment the Association on the excellence of the work that the Committee on Technical Training has done during recent years. We in the Western Electric Company are indebted to this Committee for much serviceable information and for many suggestions looking toward a more intelligent and sympathetic understanding between the industries and the technical colleges.

The development of personnel records in the colleges is still in such an early experimental stage that little is available which has tangible, practical value. In a fairly comprehensive tour of the colleges this year I found practically no records on which a valid estimate of the qualifications and capacities of the student could be based. Department heads are prepared to discuss intelligently the abilities of their prospective graduates. Student life is approximately normal again and voluntary activities give valid clues to the enterprise and potential leadership of students. Apparently we will be on that ground for some time to come.

The colleges should be encouraged to push on with their personnel record systems. In many quarters there is a tendency

to over-elaboration. This is apparently characteristic of an early stage in experience with such record systems. At best such records are means of relieving and supplementing the memory of some person who is able to draw sound judgments from the facts recorded.

To recommend students or graduates for employment calls equally for knowledge of the industry and its requirements on one hand and of the student and his capacities on the other. Obviously this is far too great a task for a single individual. The idea seems to prevail that central bureaus of employment in colleges are rather wooden institutions. The vocational bureaus show commendable zeal to be of service, but have not passed the stage of a card index in the hands of an intelligent clerk. The value of such services is in no way to be compared with the intimate picture of the man and the job which can be gotten by a personal interview with the candidate and the head of the college department most concerned.

Such interviews gain immensely when the instructor has been behind the scenes in the industry particularly concerned. The summer employment of instructors by industries is a most valuable means of promoting intelligent employment of students and graduates.

It may interest you to know what our experience with the summer employment of twenty engineering students was a year ago. These men were selected primarily for their promise along lines of engineering research and development and were given a share in our regular work in the offices and laboratories. Supervisors' final reports indicated that they earned their pay in full, taken as a group. Of these twenty men, seven have returned, or are about to return, for permanent positions; three have been employed by associated companies elsewhere in the Bell System; two are in touch with us now concerning employment; seven are still continuing their studies, and only one has definitely entered another field of work. We found him not particularly well adapted to our requirements. We regard this as an exceedingly fruitful investment.

Dean Sackett may be too modest to mention the matter, but I wish to commend his forward-looking policy in calling a conference of his faculty with representatives of the industries employing many of his graduates, which took place at Penn-

sylvania State College immediately after commencement last year. Invitations are already out for a similar conference this year. Certainly we gained a far more intelligent insight into the work and problems of the college in the more leisurely atmosphere of the conference than could ever be obtained in the hurly-burly of an employment campaign with fifty or more men to be interviewed and appraised in two days. I hope and believe that the faculty representatives benefited equally from the broader and more leisurely discussion of the man-power problems of the industries. I hope the idea may catch on, and other institutions follow the example. No doubt the industries can profit equally by inviting the educators to meet them on their ground to discuss problems of mutual concern.

MR. L. L. PARK (American Locomotive Co.): It seems to me that the colleges are faced by a difficulty (that may not be as serious as appears on the surface), that of being confronted by two groups of men, one voicing the sentiment that Mr. Stearns has just stated that they would prefer to have the students well grounded in fundamentals and come with open minds so that they may direct them into the departments for which they seemed best fitted after having had six months or a year in which to adjust themselves to industrial needs, and, on the other hand, a group of men who desire that the graduates shall come eminently fitted for some specific task. Mr. Harvey's suggestion that there was a need for the training of lubrication engineers is typical of the call being made by industries for highly specialized courses.

Just what will be the outcome of this situation I do not know, but I believe we are finding an increasing number of men who are advocating the plan of general training which will enable a man to adapt himself to the conditions with which he is confronted when he actually gets into business, in preference to the specialization that prejudices him very early in his career.

PRESIDENT KINCAID: There is one problem my company has to deal with, that all of us who are connected with business have to deal. One of the greatest difficulties I have experienced with a group from the average business school in the commercial end of the business, is the fact that they come to us convinced that they are fully prepared for business.

Now, the one thing in our contact with educators, that we impress them as desiring most on the part of the school, is that

the educator shall prepare a person to come with an open mind, as ex-President Park just remarked, on the one hand, but I think you can go a step further; that is, that you will prepare the person whom you turn out, and emphasize this one thought, that they shall come to those who are in business, not only with an open mind, but that they come with a student mind, and that in your work and in your courses you attempt to develop the student's frame of mind upon the part of every student in your school and in your university.

If you will emphasize to every graduate you turn out that what business executives want is that a man will come into that business with a greater degree of student mind than he left the university with; in other words, the business wants a student and wants him to continue to be a student if he is in the business for fifty years.

The one thing I try to emphasize in our institution down here—and as I say, we do not pretend to branch off into various technical branches of manufacturing, anything like the average institution represented here—but there is one thing I do want from the office boy to the president, and that is a student frame of mind.

MR. A. J. BEATTY (American Rolling Mill Co.): There is one thing that a great many engineering schools do not give their students. Our engineers come out of college with a very good idea, of engineering problems, mathematics, etc., but they very seldom have any information whatever of personnel problems. If they are going into industrial management, or salesmanship they should have some knowledge of the human side of commerce and industry. For, it makes no difference into what phase of industry you go, the man problem is the one big problem.

Many college students come to our industrial concerns, and they seem never to have known that there is such a thing as an employment department until they come to one to get a job. They have given no thought to problems of working conditions, or to industrial sociology. It seems to me this association can do no better than to urge on technical schools the importance of giving more consideration to these things.

The gentlemen from the Westinghouse Company raised a question, to which we have given some consideration in training men for industrial management positions and sales positions. We

have answered that problem by organizing what we call a General Apprentice Course, the purpose of which is to take technical men and give them what may be called a post-graduate course in industry with a view to training them for the different fields, of sales, or the operating division, or as minor executives.

When we start the men in that course, we do not undertake to decide for them and we urge them not to try to decide, at the outset, for which one of these three fields they are best fitted. We are unable to answer the question for them, and experience shows that many of them are quite as unable to answer it for themselves. We defer the answer to that question until they have been in the course for six months, and then with the help of five men we try to answer the question. These five men are, The Director of Employment, the General Sales Manager, the General Superintendent, the Assistant to the General Manager, and the Director of Training—these five men together interview each of the apprentices, and then direct him into either the sales or the operating or the executive divisions. We feel we are much more competent to help them decide that question at the end of six months than at the outset, and the plan seems to work satisfactorily.

MR. HARVEY: Have you any specific work that they do for six months?

MR. BEATTY: Our work is organized on the basis of two weeks' shifts, they are in technical classes two weeks, and then in the mill for two weeks.

MR. L. A. HARVEY: They all have the same mill assignments?

MR. BEATTY: Yes, the first six months is a general course.

MR. STEARNS: Are these mill assignments practical work on the floor of the mill, or office work, in the shop office?

MR. BEATTY: It is both—in the operating department, where a man can take a real job and hold it down, he is permitted to do that. The class is divided into halves, so that while one-half is in school, the other half is in the mill, and it is thus possible on many jobs, to have two apprentices make one man on the job.

MR. E. G. ALLEN: The members of the National Association of Corporation Training have been giving a great deal of thought to the selection of college graduates that they expect to train to fill their higher executive and administrative positions. The question asked by the management of technical high schools is—How far down in your organization can you use a technical know-

ledge that bears directly upon factory production? This organization has been talking for years about the super-training of college men, but are you doing anything for the man who has shown himself to be intensely practical, are you giving him a chance to get technical knowledge of his job? In other words, are we capitalizing all the ability of the men we have on the job? In some of these technical high schools hundreds of men are paralleling their daily work by special evening and Saturday classes and are up-grading themselves from the lower positions to the positions requiring real executive ability.

In Detroit we have been doing what we call continuation work for nearly ten years. We have found that if given the opportunity men will come in large numbers for evening schools or special Saturday classes and will actually lay out a program covering several years in order to better prepare themselves for their jobs. I have in mind one man who left school at the fourth grade, and who has up-graded himself through the public schools to become the superintendent in one of our largest plants. We have 200 men coming from one factory. Many have started as general workmen and by getting their drawing, mathematics, and technical training in the school are gradually becoming machinists, electricians or executives, and occasionally some finish the entrance requirements and go on to college. Eight years ago we had two instructors of mathematics in the evening school of Cass Technical High School, and today we have 22 such instructors. The number of students has increased from 250 to 1,500.

The scope of technical training and of school work must be extended to cover a much larger variety of subjects than are now covered by the colleges or ordinary schools. We have all the occupations from packing and marketing of farm produce to steam boiler manipulation from the standpoint of the man who has been given a state engineer license to operate a power plant.

I am a college man myself and am not throwing any slurs at the colleges, but the so-called technical high schools are working themselves into the educational line-up in such a way that the college graduates must compete with the graduates of these secondary schools. Trained as they are to specialize within a limited field they are going into the industries with an easily available power to produce and to grow into the higher positions. The colleges must continually make adjustments to admit technical

high school students to full class membership without being too strict in their entrance requirements. In short the technical high schools have come to stay, and the product must be dealt with in the educational market.

DEAN SACKETT: Certain of the industries have, this year, particularly, employed college graduates for their potential value, and not for the immediate usefulness. The colleges recognize the fact, and they appreciate the action very much, it is one of the outstanding things. All of our college graduates, whom we could recommend in one line, have been employed now for some little time in a larger percentage than in certain other groups. I think that this fact is going to be realized more by industry as time goes on, the potential value of the technical man, and the necessity of taking on certain numbers of them, even when business does not seem to warrant it.

Further specialization has been mentioned. We do not expect to specialize further than we are now doing, for two reasons: First, if you ask us to specialize further, we ask you—"Do you mean that you want us to drop out some of the English? Do you want us to omit some of the fundamental economics? Shall we exclude some of the fundamental science? Shall we leave out economics, political science, and the principles of citizenship? Shall we omit those things in order that we may specialize further?"

The answer of most of the industries—is different from what it was six years ago. The answer is—"We want your men according to qualifications other than mere specialization and mere scholarship."

Secondly, we believe that the industries and the technical schools can get close-up, that we can prepare them up to a certain point, and that then you can finish the job better than anybody else can. Every corporation that is worthy the name has an individuality and pursues its work according to a plan that it has devised, and that is probably a good plan, at any rate it satisfies that corporation. What do we gain by further specialization along the line of analyzing procedure or design that may not meet with your ideas of design, or analysis of operation?

An engineering student in any course recites in the College of Liberal Arts three times every week of his four years, in connection with his studies in engineering, and including the study of

industrial economics, the history of industry, in England and the United States, the principles of economics, a selection between corporations, money and banking, transportation, and commercial law, and then in his last semester, he has a course in advanced civics, and one in engineering law, contracts, organization, ethics and personnel relations.

Do you realize that 50 per cent of engineering graduates who have been out of college a certain time are in executive positions, of a higher or lower grade? That is another reason why it seems wise for us in general not to attempt to make specialists, and that it would be wiser if we knew how to assist some of them on the road towards an executive job. We do this in the second semester of the junior year. The institution may say to a few fellows—"We think that you have the making of an executive, perhaps, a man to manage affairs, and if you wish, we shall pass up certain of your specialized subjects during your senior year, and permit you to take in place of them advanced accountancy, particularly cost accounting, industrial management, industrial operation and organization, and provide a substitute course for the period of a year, for something like one-sixth of your senior year's work."

And finally, let me urge one other thing, that the industries consider the employment of the college man, say, at the end of his junior year, during the summer vacation. I appreciate your objection that the time is too short to accomplish much, and that the man will not produce what you would have to pay him in dollars for the time he spends on your work, that he has not yet matured, and that you will train him, more or less, and that perhaps he will not return to you. There are certain quotations in the report from the industries that have tried this plan. It seems to me that to employ them during the summer following their junior year has certain advantages to you as well as to the boy and the college. It has advantages to the boy who obtains an idea of your plan, possibly of your purposes, and you may obtain some idea as to whether he is adapted to your work, or to the line of work in which you have placed him.

He goes back to college, with a realization of certain facts that the college boy sooner or later must realize, and that he might not have realized unless he was so fortunately situated that he had to work in summer in some industry.

I think that is one of the most important things we could

organize. It is a form of cooperative employment, similar to that where the boy is in industry for four weeks, and then in the college for four weeks. Not all the colleges are so situated that they could put into effect this latter form of cooperation, but most of them are situated so that they could cooperate in summer employment. In that way we would have the advantage of your estimate of certain qualities that that man possesses when he came back to college during the senior year, and he would have more accurate knowledge as to actual conditions, as they are in industry. He believes a great deal of what the college professor tells him, but he does not believe yet that industry will insist on punctuality, and put a price on individuality and initiative, and the doing of the work himself, rather than having somebody else do it, and the sooner he realizes these facts, the better it will be for him.

The conferences which were held with college men, and the industrial men who attended, indicated a desire on the part of the college men to cooperate with you, and you have indicated your desire and willingness to cooperate with the institutions. The closer we coordinate, the more important will our work be, the better the placement of the men and the better the service that the men will be able to give.

PRESIDENT KINCAID: It seems to me that there has been one theme touched on this morning which has justified the existence of the National Association of Corporation Training, and that is the bringing together of industry and the schools—from the very lowest educational institution, beginning with the primary school, —bringing these institutions and the industries into a mutual understanding of what they can do for each other. It seems to me that is the greatest thing for which we can stand, and I know that we can stand for it, and I shall say to the school men, if you hear any radical statements from men in industry against the schools, forget it, because that is not the spirit or policy of the men who stand for cooperation and for the closest possible relation with the technical schools of the country. We want to help you and we want you to help us. In trying to solve this problem, I think we both stand in the same relation to it, we are feeling our way through to something more perfect and more understandable.

I want to thank the Dean for coming up here and giving this report, thank him on behalf of the Association because it has been

a very excellent paper, and we appreciate the effort the schools are making to reach us in the industries.

(The meeting then adjourned.)

JOB ANALYSIS

TUESDAY AFTERNOON—JUNE 7, 1921

PRESIDENT KINCAID Presiding

THE PRESIDENT: Mr. Harry A. Hopf, Chairman of the Committee on Job Analysis will present his report.

THE CHAIRMAN: This year's report covers the field that was assigned to the Committee on Job Analysis by the Executive Committee and you will find in the report that there are five distinctly separate phases of the subject that the Committee attempts to cover.

The first of these five subjects deals with the effect of job analysis on the equitable establishment of wages—that is the way the Committee which referred this subject to us put it. I think it would perhaps have been more correctly stated as: "On the Establishment of Equitable Wages." We are also requested to determine the human qualifications necessary for certain specific jobs, and to determine the methods to be employed in the selection of employees for specific jobs. Then come the newer phases of the work of the Committee, namely, to determine how best to utilize disabled men, and finally, to make a study of correlations in the establishment of specifications for the same kind of work, in the same plant and in different plants.

Speaking for a moment from the viewpoint of the historic development of the subject, I think it is fair to say that perhaps up to five years ago, such a function as job analysis was not clearly understood or recognized, and that in the intervening period only moderate progress has been made in the recognition of the importance of job analysis. Our Committee has been in touch with organizations all over the country, not alone those that are members of this Association, but also others, which are affiliated in allied associations, and also some which have followed the policy of going it alone, employing the trial and error method.

The review which the Committee made this year does not warrant the statement that very rapid progress has been made in the introduction of job analysis as a function, but each year

the number of organizations utilizing the function of job analysis has grown, and each year my correspondence reveals a little better appreciation of what job analysis means, and how it can be utilized in a practical way to further the program of improvement work in an organization.

I do not propose in the brief period of time at my disposal to review the report in detail. I want to touch upon some of the high spots and also to speak of certain things that do not appear in the report, but which are important and may be stimulating to you.

At the risk of repetition of what was said last year, I wish to emphasize that in carrying out any program of improvement work, there are two different practical ways which suggest themselves—the one is to begin by creating a picture of the organization on paper. In other words, to draw a pretty organization chart, and to see that the lines are nicely placed in the plan vertically and horizontally, and that all the titles are standardized, and the functions of the organization nicely subdivided, tapering off in importance until they come down to within the compass of the employe of average ability. That is the way that often commends itself to business executives. They are ambitious for results and want to see something concretely before them, and see it pictured in sufficient detail to enable them to take action. Whether or not the picture will be changed in the course of time is another question.

The other way is patiently to make an analysis of the job, and gradually to relate it to the functions of the organization, and in that fashion build up an improved organization, which ultimately may be expressed successfully in the form of a chart, provided you feel that such a method of expression is of value in clarifying your ideas as to the organization and functions.

If I had my own choice in the matter I should always want to start with job analysis; but in my experience, nearly always the choice has been made for me by the desire of those with whom I have been associated to see an organization created by fiat so-to-speak. I do not believe anybody can do that, and do it successfully. I have made enough mistakes to assure me that my opinion is fairly well founded. There are too many things to be taken into consideration, and it is too difficult to educate the minds of executives, who seem to assume that the creation of a picture

of an organization is going to be a step in advance of what is being done.

How is job analysis related to the various factors which are outlined in the report?

The one thing of special interest to me, and perhaps to you, is the relation of job analysis to the establishment of equitable wages. Our processes for selecting the human material for various jobs in an organization, are haphazard in the extreme. Naturally we have set up certain standards, some of which have developed in the course of time by experience and mistakes, and others which exist in the minds of those who have contact with the work; but in order to select human beings intelligently, we must know what the work consists of, and what qualifications are essential for success in that work.

Let us take an organization comprising, perhaps, 2,000 or 3,000 people,— and when I describe such an organization to you, I have very largely in mind a clerical organization, because my work, during the last few years, has been devoted exclusively to the analyzing of administrative activities—let us take an organization of 2,000 or 3,000 employees, and we shall find that, on the whole, this organization is so arranged that the employees are performing perhaps 150 to 200 typical jobs.

There are, say, 2,500 positions. When they have been analyzed and compared with each other, we shall find that the work elements and the qualifications required to perform the work admit, perhaps, of no more than 150 to 200 variations. Let us call these typical jobs. If we are to determine what shall be the wage that may be equitably paid to the workers in these typical jobs, we must bring these typical jobs into relation with each other from the standpoint of importance. The report touches on one such method of doing it, in Chart A, showing that seven different levels of importance were established, into which practically all of the typical jobs could be placed, according to the order of their importance.

You will see that they run through from Messenger and Office Boys, to Novice Clerical (a) Grade and (b) Grade, Junior Clerical (a) Grade and (b) Grade, then to Senior Clerical, then to Special and Supervisory, then to Minor Executive Clerical, and then to Executive.

Now, the administrative group has two divisions, supervisory

and clerical. A practical way would be to recognize all the positions which call purely for clerical work and very little, if any, supervisory work, and put these positions into the clerical division, and then classify all of the supervisory positions into perhaps a half dozen or more classifications, according to the order of their importance which in turn, is determined to some extent by the value of the individual unit of the organization over which the supervisor or manager or chief has control.

It was not until a year ago that I attempted to set up a measure of the value of different departments in an organization. It occurred to me that it would be a good plan to utilize a rating scale, and select standards by which the value of the departments could be judged. In one particular case, working with a Committee, it required perhaps a day and a half of concentrated work to do that, and at the end of that time, the Committee had arranged in the order of their importance the 31 or 32 departments in that particular organization.

I am sorry I did not do one thing in that connection, namely, obtain the consensus of opinion as to the order of importance of these departments before we applied this scientific method. Then the method could have been compared with the consensus of opinion previously arrived at, and we could have checked up the method, but in the haste of doing the work, I omitted that phase of it, and it was futile to attempt it afterwards, because we had been influenced by the mental processes through which we had gone. At any rate, practically speaking, a scale can be applied to the value of the department, and it is essential that that be done, because in no other way can we equate the values of the supervisory positions, and express them in terms of dollars and cents.

All other things being equal, the remuneration received by the heads of a dozen different departments, ranging from minimum to maximum in each given case, should express a distinct relation between the values of the different departments.

I regret that the method which I am describing is experimental, and that I cannot state very conclusively that it is entirely successful, but, at least, it is an attempt to arrive at an evaluation of the different departments by something more than just preconceived notions and impressions which so frequently find lodgment in the minds of executives who are largely influenced by their own development in the organization. A man who has come

up in the organization through the field of marketing will always be disposed in favor of the value of marketing as a field; the production man will see everything in terms of production, and to the financier, finance looms large in the scale. It really requires what might be termed an engineering type of mind to enable a man thoroughly to fix the respective values of these departments.

Let me return to the clerical jobs. Let us assume that by a process of analysis which may vary with the individual organization, we have arrived at a knowledge of the work content of the typical jobs, and that we have arranged these typical jobs into six, seven, or eight different levels of importance. We may then begin to set the ranges of remuneration, and say, for example, that the messenger and office boy grade should range from \$600 to \$900 a year, that the novice clerical grade B may range from \$900 to \$1,200 and grade A from \$1,200 to \$1,400, and the junior clerical grades A and B from \$1,500 to \$2,400. I am taking these figures out of thin air, and they have no relation to actual practice. I am simply illustrating how the levels of remuneration may be made to agree with the importance of different job levels.

Then we will find in the individual group that we have a certain number of typical jobs to deal with, and it will be necessary to determine the minimum and the maximum of each one of these jobs, and intermediate rates, which will follow a certain time element in progression; for example, if the minimum rate for an office clerical job is \$1,000, and the maximum \$1,500, then there should be a rate of progression, perhaps \$100 at a time, let us say a year on the average, until the highest figure in that classification has been reached. The progression may be accelerated or retarded in accordance with the degree of merit demonstrated by the individual.

That method, roughly described, leads to the establishment of equitable wages. It is simply doing sensibly, scientifically, if you please, but at any rate, systematically, what must be done unsystematically, if not done the other way. We do not analyze our mental processes sufficiently to check how we arrive at certain conclusions, but we do it in a haphazard way. If we determine on the job classification, a sample of which is exhibited in Chart A, no matter how imperfect it may be, it will still be a valuable basis for reaching intelligent conclusions, and can be applied uniformly to the whole organization. And let me say right here,

that it has been borne in upon me from much study of the entire field, that the average employe is not so much concerned about the insufficiency of his remuneration, as he is about the inequalities which exist between himself and his associates, especially those who are doing work of a similar character. I have found situation where the range exceeded 100 per cent for the same class of work, people working alongside of each other, and receiving all the way from \$1,000 to \$2,000 a year for the same class of work. Not even a most liberal interpretation of the principle of years of service would justify so wide a range in the remuneration. So much as a very brief reference to the establishment of equitable wages.

Now, the determination of the human qualifications necessary for certain occupations opens up a very wide field. We can never be sure that any statement of human qualifications is the last word on the subject. We must not forget that these statements will not be valuable if they are worked out automatically. As between two or three different department heads in an organization, I think you will agree with me it is quite possible that different sets of qualifications should be prescribed for the same kind of job, depending upon whether department head A, B or C is the one who has control. Human chemicals do not always mix, and when they do not there is usually an explosion. My sympathy goes out frequently to the individual who finds that his particular set of qualifications does not mix with those of the department head. The latter has a free field, and is able to justify himself, generally speaking; the employe, on the other hand, is marked for transfer. But often when he is transferred to another department, he gets along very much better. The answer is that in the first case, his qualifications are not in harmony with those of the department manager whereas in the second case they are.

The specification of human qualifications, therefore, should be elastic, and I should not put in any fundamentals such as health, honesty, intelligence and industry. It can be taken for granted that these must be present in any individual, and the absence of any one of them disqualifies the individual for his job. But when we deal with tact, initiative, judgment, executive ability, etc., we must write the prescription that marks the proper degree of each to fit the work requirements in any given case. Frequently the

consensus of opinion method, which to be sure is not infallible, is a practical way of arriving at the statement of human qualifications.

In regard to determining methods for the selection of employes for specific jobs, we touch a field that has been covered to quite an extent by other committees. I shall not take time, therefore, at this moment, to add anything to what has been stated in the report.

The next point to determine is how best to utilize disabled men. My own experience in that field may be expressed by zero. The question of the utilization of disabled men has assumed great importance since the war. It was a problem even before the war, but very little thought was given to job analysis. We have referred to this at some length in the report, and there, again, the Committee's statement will perhaps be sufficient to indicate the conclusions, without any summary on my part. We have made very interesting contacts with some of the agencies that are grappling with the problem of the placement of disabled men, and we have considerable material on file that falls into that field. Those of you who are much interested in this subject are invited to confer with the Committee, so that you may have the benefit of such material as we have collected.

Then we come to the study of correlation in the establishment of specifications for the same kind of work in the same plant, and in different plants. We were a little embarrassed in the handling of that assignment. We are not sure that it is essential that there should be correlation between the specifications in different plants. Conditions, geographically speaking, and types of management are so diverse in different plants, even in the same organization, that we are not very eager to make propaganda for correlation between their job specifications. We do believe, however, that in the case of an organization with a number of plants, in each of which one or more men devote their time to job analysis, there should be the usual conference method.

Undoubtedly, for some of the jobs that are common to all the plants, it will be economical and practical to set up standard specifications; but we failed to discern any very great advantage that might be achieved by striving for standardization in all the plants of a piece of work which, in itself, is not standard.

Regarding the use in any plant of job specifications made for

another plant, we say in our report: "It is not even advisable to use them as a point of departure for checking up work. A far better plan is to let job analysis proceed independently in each plant, under the direction of some one familiar with its problems and management as well as with the technique of job analysis, and then to have the results compared by a competent committee of the job analysis and others interested."

We suggest that next year's Committee consider the work of job analysis in determining training courses, and the relation of job analysis to scientific management.

One phase of job analysis which has interested me from the Committee's standpoint is the relation of job analysis to the general question of industrial stability. Some time ago I wrote a paper for the American Association of Public Employment Offices, which held its eighth annual meeting in Ottawa, Canada, September 20-22, 1920. The subject which I chose was "Job Analysis as an Aid to Industrial Stability." I dealt with the subject simply from the standpoint of showing the proper relation of job analysis to each phase of personnel relations, beginning with selection.

At the risk of taking up more time than is ordinarily allotted to the chairman of a committee, I want to speak of one more phase of job analysis, and that is its relation to salary standardization. Perhaps the most complex and bothersome problem to the executives in every organization is the problem of proper wage adjustment. My own view, based upon very considerable experience and study of that problem in the last two years, is that unless job analysis is undertaken from the ground up and systematically worked out, there can be no final, definite and satisfactory answer to this important question of salary standardization.

In the institution which I serve we have completed a far-reaching investigation of positions and standardization of jobs. These were brought together into group classification and ranges of remuneration were applied. While all this work will have to undergo the test of practical experience during the next two or three years, we have reached a point at which we are at least aware of the typical jobs in the organization, of the values that may be applied to them, and of the effect that job analysis has on the salary standardization problem.

In fact, we went even a step further. It so happens that, as

Secretary of the Committee on Pensions of the various Federal Reserve Banks, I am deeply interested in studying the pension problem. In connection with the work of that Committee, statistics concerning all the past and present employes of the organization were produced, and in studying these statistics from the actuarial standpoint, we discovered that tables could be compiled which would show a definite relation between age and length of service and the leaving rate. You appreciate of course that the leaving rate has a very important bearing on one factor, namely, the determination of future salary costs.

From the practical standpoint, job analysis work and the setting up of a scheme of salary standardization will be very difficult of accomplishment, unless some statement can be made with reference to the future costs. The application of the leaving rate based on age and length of service, and the determination of other factors such as minimum and maximum salaries, rate of progression, etc., deduced from past and present practice, with the assumption of probable future practice in the administration of the salary problem, led ultimately to the setting up of a table giving the cost of the payroll for a period of eight years from the present time. The work was done in collaboration with a well-known consulting actuary who devised the formulae on the basis of the information furnished. I am thoroughly convinced that the results of that work admit of wide application to administrative activities in various organizations in the country and give definite assurance of payroll control, lowered costs and above all employe satisfaction.

If we can go to our executives and show them the processes which we have used, the basis of which is job analysis, and indicate to them the conclusions reached with respect to wage ranges, stating the policies that it is proposed to set up with respect to wage administration and showing as nearly as it may humanly be done the costs that will accompany wage administration, we have removed practically all the objections that executives so frequently are prone to raise, and we have provided means for action and for freedom of administration. This, we can easily predict, will have a very wholesome effect in the long run.

There is nothing that constitutes a greater incentive to action in some minds than a table of condensed figures showing these

trends. I should be glad to rest my case in any organization on one table showing the costs predicted and projected into the future, supplemented by one sheet of paper, containing a brief statement of the processes by which these figures were arrived at.

In that fashion you can get action. But what I am describing is very far removed from the action which takes place in most business organizations today. It must not be forgotten that job analysis is the initial step in this process. With job analysis setting up the specifications, providing the job classification and indicating the ranges of salaries, you can have full assurance that the cost of administration of clerical service is well under control, and one of the chief functions of management is the control of that cost.

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PREFACE

The task assigned to the Job Analysis Committee this year was five-fold:

A. To determine the influence of job analysis on the equitable establishment of wages;

B. To determine human qualifications necessary for certain occupations;

C. To determine methods in the selection of employes for specific jobs;

D. To determine how best to utilize disabled men;

E. To make a study of correlations in the establishment of specifications for the same kind of work in the same plant and in different plants.

It has been the endeavor of the Committee to treat each of these problems in the light of the most recent accomplishment in the field of job analysis, referring the reader to previous reports of the Committee for statements of general principles and advantages of job analysis and for specific methods and forms in use.

Emphasis has been placed on Sections A and D of the report inasmuch as these are phases of job analysis not previously touched on by the Committee.

HARRY ARTHUR HOFF,
Chairman.

A. Determining the Influence of Job Analysis on the Equitable Establishment of Wages

There is no factor in the management of labor more important than wages. Of the fourteen thousand nine hundred and fifty strikes and lockouts in the United States recorded by the Bureau of Labor Statistics during the four years ending December, 1919, involving in a single year over four million persons, 37.7 per cent of the strikes and 16.5 per cent of the lockouts were caused entirely by wage problems, and in an additional 18.9 per cent of the strikes and 10.6 per cent of the lockouts wages figure as a joint cause.

The influence of wages on turnover is less spectacular but not less important than their influence on strikes. Although it is almost impossible to determine how much of labor turnover is attributable to dissatisfaction due to wages, there is no doubt that this is one of the chief underlying causes. Under-payment, however, is only one of the aspects of the wage problem in its relation to turnover. Just as serious a condition is created by inequalities in wages. There is constant unrest and friction in the institution which pays widely different salaries to men doing the same work and which does not relate the compensation to the task. The strong feeling of dissatisfaction which is aroused among employes by these practices must inevitably be reflected in lowered production and increased turnover.

Whatever, therefore, can be done toward the equitable establishment of wages will be an effective force in counteracting the baneful influence of strikes, low production and high turnover, three of the most baffling problems confronting management today.

The determination of an equitable wage, after living standards and the general wage situation have been taken into consideration, must be based mainly on these factors:

1. Character and responsibility of work;
2. Conditions and hazards of work;
3. Human qualifications necessary for its successful performance;

4. Value of the position in comparison with other positions in the same institution;

5. Prevailing wages for similar work.

All these factors, excepting the last, are inherent in the work and, therefore, all but this one can be established by job analysis.

To determine the character, responsibility, conditions and hazards of the work, a job description must be prepared setting forth the component elements of the job and its importance in relation to all other jobs in the organization. The human qualifications necessary for the successful performance of the work follow as a corollary in completing the analysis of any given job. For methods of job analysis with its resultant job description and specifications the 1920 report of this committee should be referred to.

The fourth factor mentioned in the determination of an equitable wage, i.e., the value of the position in comparison with others in the same institution, depends upon job classification. The classifying or the zoning of jobs, as this process has been called, is based on the selection from the entire scope of the organization of certain typical jobs whose work content and value to the institution are thoroughly understood. These jobs being indicative of the various levels into which all jobs in the institution can be classified, a general description of each level can be established showing kind of work, human qualifications and salary ranges. It is then a simple matter, after a job analysis has been made, to evaluate any job by assigning it to the appropriate level. Until levels have been established, however, there is no adequate way of comparing different kinds of work with a view to determining just where in the whole scheme a given position fits. When the job has been assigned to a level, the salary is determined by the limits set for the level. Further precision, including the setting of maximum and minimum rates, is reached by comparison with other jobs therein.

The method described above was employed in the preparation of Chart A * which shows a typical classification of clerical jobs.

* This chart is reprinted by permission of Mr. Hugh L. Clary from his report "The Zoning of Jobs" prepared under the direction of the Bureau of Personnel Research, Carnegie Institute of Technology.

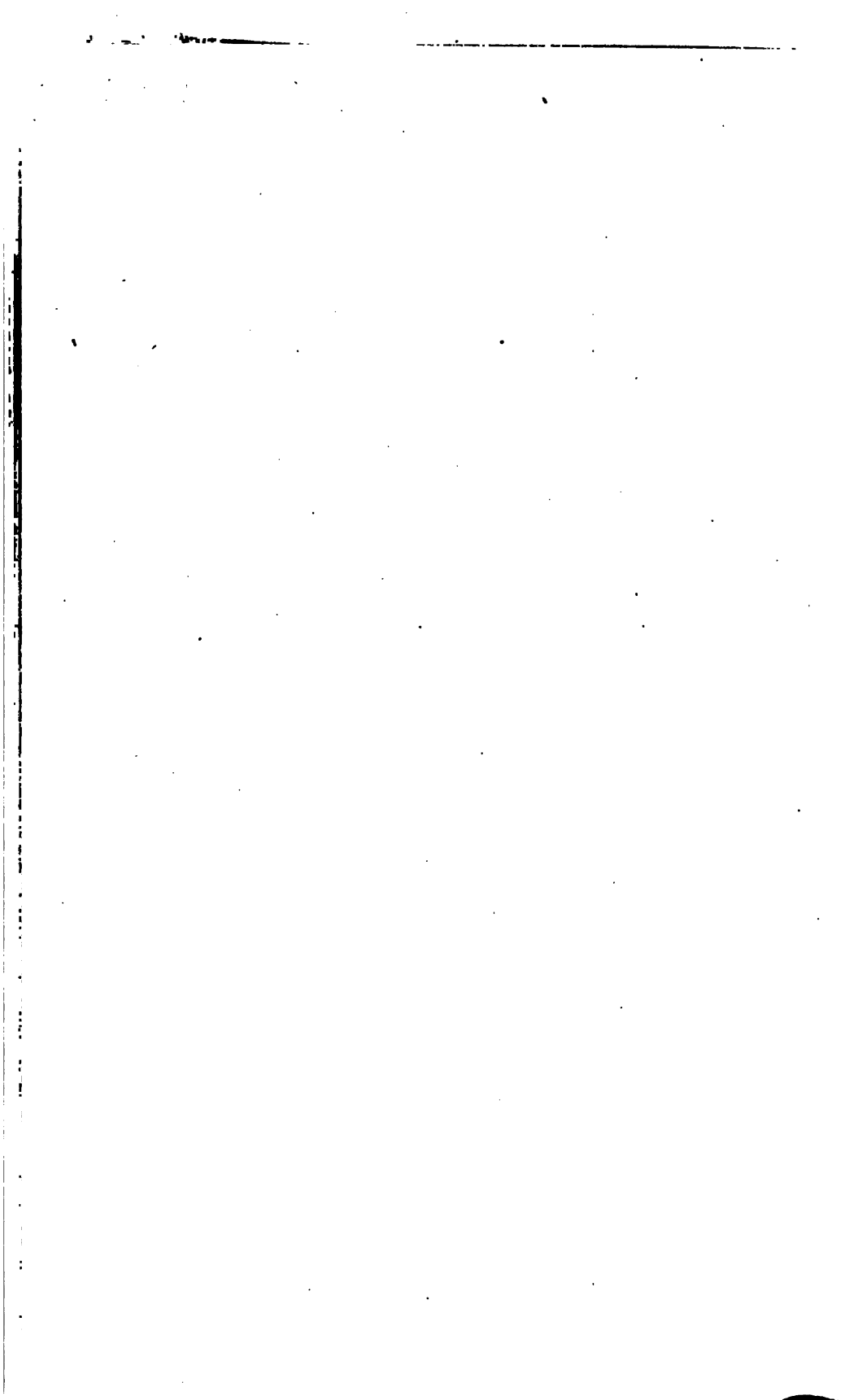
Chart B was used in determining the wages within a single level in a metal factory, namely, that of unskilled labor. A base rate for unskilled labor according to prevailing wages was first set. Rates for the various jobs within this level were then ascertained by weighing the several factors of the work revealed by job analysis and adding to the base rate certain percentages for extra hazards, disagreeable conditions, etc.

The classifications and standardizations of salaries undertaken by the Civil Service of Canada, of the United States and of various states and municipalities are steps in the right direction. The task in these cases was so stupendous, however, that the achievement leaves much to be desired; but in the Canadian classification, progress is especially notable.

Although the standardization of wages with the use of the above and similar methods has been attempted during recent years in a number of institutions with varying degrees of success, it may be asserted that industry as a whole has not as yet awakened to an appreciation of the importance of so administering the wage fund as to constitute it an incentive.

At the root of the whole problem is the failure to recognize the dependent sequence of job analysis, job classification, salary standardization and the control of payroll and labor costs. Any thoroughgoing study of wages is bound to reveal irregularities in rates of payment, deplorable lack of uniformity in wage administration and failure to deal justly with all employees.

The solution of the problem rests upon the construction of a sound job classification and salary standardization plan, with equitable minimum and maximum rates which will take into account all the essential factors, including deferred wages in the shape of pensions. The establishment of a sound wage budget will make possible the freedom of action essential to the administration of a wage fund. It will control costs effectively and will produce in the minds of employees a feeling of confidence that the processes employed in determining their remuneration are sound and worthy of their support. The application of the principles of standardization to the solution of the wage problem involves a long and complex process, the success of which depends mainly upon the skill, experience and technique brought to the task. This success is predicated upon a firm conviction



in the correctness of the approach and belief in the advantages following its accomplishment. The foundation for salary standardization is job analysis which reveals the facts upon which salaries can be scientifically determined.

B. Determining Human Qualifications Necessary for Certain Occupations

The first element in the selection of applicants for given jobs is the determination of the human qualifications necessary for their successful performance. This is predicated upon thorough study of job content and is, as has been brought out in previous reports, a part of job analysis. Often job analysis reveals that certain qualifications which have long been regarded as necessary in applicants for given jobs are not essential; and vice versa, it is often discovered that qualifications necessary to the successful performance of certain work have been entirely overlooked. In making job specifications care should be taken to distinguish between the essential and the desirable qualifications for jobs.

It is interesting to compare the human qualifications looked for in applicants for the same job by different employment managers, and then to check these against the qualifications determined upon by job analysis. The following list shows the variety of qualifications desired and indicates which of them seems, as a result of job analysis, really essential for the jobs in question:

<i>Position</i>	<i>Qualifications Desired by Five Employ- ment Managers</i>	<i>Qualifications Deter- mined by Careful Job Analysis</i>
File Clerk	Accuracy (4) Neatness (2) Industry (1) Intelligence (1) Concentration (1) Carefulness (1) Judgment (1) Speed (1) Orderliness (1) Appearance (1) Character (1) Experience (1) Training (1)	Alertness Accuracy Love of Monotony Loyalty to Work Good Memory

<i>Position</i>	<i>Qualifications Desired by Five Employ- ment Managers</i>	<i>Qualifications Deter- mined by Careful Job Analysis</i>
Hand Bookkeeper (Bank)	Speed _____ (4) Experience _____ (4) Accuracy _____ (3) Penmanship _____ (3) Neatness _____ (2) Character _____ (2) Intelligence _____ (1) Dependability _____ (1) Industry _____ (1) Concentration _____ (1) Reliability _____ (1) High School Edu- cation _____ (1)	Accuracy Penmanship Neatness Reliability Knowledge of Principles of Book- keeping
Money Counter	Accuracy _____ (4) Speed _____ (3) Integrity _____ (3) Concentration _____ (2) Patience _____ (1) Vigilance _____ (1) Neatness _____ (1) Industry _____ (1) Appearance _____ (1) Health _____ (1) Experience _____ (1)	Accuracy Speed Patience Trustworthiness
Typist	Accuracy _____ (5) Speed _____ (4) Neatness _____ (3) Experience _____ (3) Character _____ (2) Intelligence _____ (1) Dexterity _____ (1) Education _____ (1) Appearance _____ (1) Industry _____ (1)	Accuracy Speed Neatness Good Memory
Yard Labor	Strength _____ (4) Health _____ (3) Liking for Out- door Work _____ (2) Hungarian _____ (2) Italian _____ (1) Polish _____ (1)	Strength Health Liking for outdoor work Italian (in gangs un- der supervision) Polish (alone, with- out supervision)
Small Parts Assorter	Accuracy _____ (4) Speed _____ (3) Nimbleness _____ (2) Liking for monotonous work _____ (1) Judgment _____ (1) Reliability _____ (1) Steadiness _____ (1) Knowledge of job _____ (1)	Accuracy Speed Nimbleness Girls

In determining the human qualifications necessary for the successful performance of any job, it must be borne in mind that few persons combine all the virtues and that few jobs really require more than a small number of qualifications in more than average degree. Only the outstanding requirements, therefore, should be stressed, additional qualifications being considered gratuitous. In fact, employing applicants who are too well endowed for the work to be performed is bad practice. It can only result in discontent unless the possibilities of promotion are immediate and attractive.

It is helpful, in determining human qualifications, to check off from a reasonably complete list of desirable qualifications those which seem essential to the job under consideration. Such a list should include the following:

Physical

Age	Height	Strength
Sex	Weight	Disabilities allowed
	Sight	

Mental

Accuracy	Energy	Patience
Adaptability	Industry	Speed
Alertness	Initiative	Thoroughness
Ambition	Intelligence	Willingness
Analytical Ability	Judgment	Education
Carefulness	Neatness	Specialized Knowledge
Concentration	Observation	Experience
Dependability	Orderliness	
Dexterity		

Moral

Cooperation	Honesty	Loyalty
Faithfulness	Integrity	Trustworthiness

Personal

Appearance	Personality
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In addition to knowing definitely what qualifications are required in applicants for specific jobs, it is often useful to discover the general scope of qualifications desired in a department, or in an entire plant. To this end, a composite study was made of the

job specifications of twenty-eight different varieties of work in an electric cable manufacturing plant. These specifications in the aggregate directed attention to a total of 690 points of importance to be noted in the hiring of men for those twenty-eight jobs under consideration. Thus, twenty-five points on the average had to be considered in each case and this fact shows the likelihood of overlooking many factors unless attention is specifically directed to them by means of the job specification.

The time taken to learn these jobs varied from half a day in two cases to three months in two other instances and the average period of learning amounted to twenty-five days each.

The minimum educational requirements were English for twenty-four out of the twenty-eight, reading and writing for twenty-two and "schooling" for ten of the jobs. Previous training on the job was not specified in any case, as none could be expected in view of the nature of the work.

As to the general physical requirements of the workers: Americans were preferred for twenty-five out of the twenty-eight available jobs, notwithstanding the apparently rough character of the work. No limitation as to age was provided for in the specification, but good sight was demanded in all cases, while normal hearing was found necessary in 82 per cent of the total.

With one exception, men of medium height were demanded. Weight was no factor, but men of medium strength were needed in two-thirds of the cases and strong men in the remaining third.

Seventy-eight per cent of the work demanded speed and about 43 per cent demanded deliberateness of action.

The various types of work analyzed demanded the use of hands in all cases, of arms in eighteen instances and of hard hands for eleven out of the twenty-eight available jobs. The usual posture was standing, but the work involved sitting in 30 per cent, stooping in 57 per cent and reaching in 43 per cent of the cases examined. Most of the work was done under shelter, there being only two cases of outside work.

The nature of the work was termed "heavy" in 43 per cent, medium in 39 per cent and light in 18 per cent of the total. In general 30 per cent of the work was hot, wet, damp, dirty or greasy and, in a few instances, the nature of the work was termed "cold."

Danger was indicated in 26 per cent of the jobs, dust was a factor in 39 per cent and fumes were present in 26 per cent. Half of the work appeared to be repetitive and monotonous, while only a small proportion was non-repetitive or varied.

Information as to the age of the worker and the wages paid was omitted from the specifications, but under the heading, "Special Duties of the Job," a comprehensive note of what the work involved was included.

Considering the factors in the aggregate, it appears that about a third refer to the work proper, 44 per cent to the physical requirements and 23 per cent to the mental attributes.

The study is indicative of the variety of factors to be considered in making an analysis of conditions which enter into the determination of an equitable wage; and an approach of this character insures the inclusion of all factors of importance.

C. Determining Methods in the Selection of Employees for Specific Jobs

When qualifications have been established, the next step toward hiring is the determination of methods of selection. There are three main ways of gauging an applicant's ability against the requirements for the job—personal interview, tests, and records of past performance. No one of these alone is sufficient, the nature of the position determining which are necessary and which may be omitted.

Personal interview is the most uncertain and the most widely used of these methods. Though it cannot be relied upon to give accurate knowledge of the ability of an applicant, it does what no other method can hope to accomplish, namely, it reveals personality. This factor is a most important one for all kinds of clerical and supervisory work and for work where there is contact with the public. For factory work, the intangible quality of personality is less significant; but it should nevertheless not be neglected, since ability to get along with others is one of the requisites for success. Personal interview also discloses physical defects and peculiarities which cannot otherwise be discovered. Except under unusual circumstances, therefore, personal interview should not be dispensed with.

Investigation of former positions or of school record, or both, provides a check upon the estimate arrived at through interview. Written references or records from former employers should be accepted with certain reservations as, either through inaccuracy of record or through preference or prejudice, such reports are, in many cases, unreliable. Telephone corroboration or personal investigation of record is advisable.

Tests for the selection of employes are of two kinds, physical and mental. The physical test, or medical examination, is of primary importance in securing employes physically able to meet the requirements and endure the strain of their work, thus providing a reasonable assurance of adequate production as well as minimizing the factors of accident and absenteeism. The job specification should be used as a guide by the medical department in the examination of applicants.

Mental tests include both psychological and performance tests. If well devised and correlated to the work to be done, such tests may be expected to forecast probable performance. Psychological tests are especially valuable in hiring untrained workers for positions where experience is not required or in estimating the probable success of an applicant in work which is new to him. The general intelligence or information test is of value chiefly in testing applicants for non-routine positions. The application of psychological tests, however, will not be treated in this report, as this subject is to be covered by the committee on the Application of Psychological Tests and Rating Scales in Industry. Performance tests are very valuable when the work to be done can be reduced to such a test. For typists, stenographers, adding machine operators or others whose daily tasks can be reproduced in a test, this is an excellent method, but there are certain positions, especially in specialized routine work where skill is acquired after training or experience in the institution, for which such tests cannot be used. In the administration of tests, moreover, it must always be remembered that there is a large group of individuals who never do themselves justice in examinations, and another group whose attainment in examinations often far surpasses the practical performance which tests are designed to foretell. For this reason the most accurate guide in hiring is past record and this should in all cases

be investigated and supplemented by personal interview and examinations indicated by the analysis of the work in question.

D. Determining How Best to Utilize Disabled Men

A phase of the uses of job analysis not heretofore considered by this Committee, but one which opens a wide field for investigation and experiment, is that of determining the most advantageous utilization of the disabled in industry. When it is realized that in addition to our war cripples in the United States, fourteen thousand men are injured annually in industrial accidents in such a manner as to render them unfit for further service in the vocations in which they were engaged at the time of the injury, and that one hundred thousand are annually incapacitated through occupational disease from continuing in their regular field of employment, it will be apparent that industry is faced with a problem which cannot be considered in the light of a social obligation alone, but which must be dealt with as an economic factor as well.

It is from this point of view that the Job Analysis Committee has undertaken to study the question. That the able-bodied owe a debt to the disabled, that society should not only pity the cripple but should offer him the opportunity of becoming independent and self-reliant are pleas which should be left to other agencies; it is with the ascertainment of effective methods of making the disabled man a productive factor in industry that the Committee is concerned.

It is taken for granted that progressive institutions will want to reemploy, wherever possible, workmen who have suffered injury while in their employ. Aside from humanitarian reasons, the maintaining of the morale of the working force demands this. Moreover, the favor of the public, especially of the working classes, is at stake. A workman so reemployed and justly dealt with will be an active force for loyalty within the institution and good will without.

But merely to reemploy a disabled man, letting him do whatever work appears available for him, is to do both him and the institution an injustice. Productive placement is not a haphazard occurrence; it implies careful study of individual disablements

and thorough analysis of all the work of the plant. When this has been done, the economic return from the work of a contented employe, assigned to a task which he is competent to perform and realizing that he is not only earning a living but actually contributing a man's share toward production, more than pays for the effort involved in correct placement.

The reemployment of those disabled in one's own institution, however, constitutes but a small portion of the problem of utilizing disabled men in industry. It is estimated that there are six hundred thousand cripples in this country who are denied the opportunity of being positive factors in its economic life. These constitute an almost untapped source of labor supply which would yield results in proportion to the care expended in utilizing it. In time of labor surplus, the appeal of this group is doubtless small; but we cannot afford to neglect it and then expect that it will yield satisfactory material when drawn upon in time of labor shortage. When the need for production does not loom so large the time is propitious for studying these problems.

That disabled men may become economic units in industry has been proved by the successful results attained by them after intelligent placement and training. A notable example is the variety of successful work done by the blind. One institution finds that they excel in operations requiring manual dexterity, such as coil insulating, armature winding and various kinds of assembling of electrical products. A successful vulcanizing shop has been run in Baltimore and a cigar factory in Evergreen, Md., under the auspices of the Red Cross Institute for the Blind, but in competition with shops where normal labor is utilized. Many organizations which have not been willing to employ large numbers of blind workers have found it very satisfactory to employ a few of them among the sighted workers. In bookbinding, carpentry, assembling of metal parts, the operation of automatic or simple machinery and as typists and dictaphone operators, the blind have proved their worth among the sighted.

The superintendent of the department for the blind in an institution which has done pioneer work with them, employing as many as forty blind persons, writes: "Give the normal blind man a chance and he will compete with the seeing work 100 per cent in many cases will exceed him. Workmanship after training,

becomes more skilled, due to concentration in which the blind man excels just as he does in finger dexterity. It is impossible to walk through a large industry and not find a number of seeing operators spending time in idle chatter or moving to and from their work for various reasons other than demanded of them, while the blind employe will put in eight or ten hours daily of uninterrupted labor. His sightless eyes shut out all objects that serve to distract the sighted man's attention from his job. This feature of concentration is a decided economic question for the manufacturer. With this qualification the blind worker inspires the sighted coworker. . . ."

Orthopedic cases, depending on the kind and degree of disablement, have proved to be skillful workers in an almost infinite variety of occupations. Usually, to be successful they should be placed at single processes, not at work which requires a number of operations. Just as with all other classes of disabled, it is most important to study the previous training and experience of the worker. Although his disablement may preclude the possibility of his returning to his former field of activity, his experience can almost always be capitalized when he is again placed in industry. On account of the variety of orthopedic disablements it is not practical to list here the occupations at which this class of handicapped has been successful.*

With deaf mutes and the hard-of-hearing excellent results have been obtained in many trades, but especially in carpentry and printing. In the operation of office machinery this group is said to excel normal employes.

Though the above references to the successful placement of certain classes of disabled give a general idea of what can be accomplished, it must be borne in mind that productive placement can never be made until the work description and human specifications for all jobs have been set forth as a result of job analysis. It is an economic loss to industry to have men perform unskilled work when there are many kinds of skilled or semi-

* An extensive list of placements grouped according to disablements is contained in the appendix of the report "Three Years of Work for Handicapped Men," published by the Institute for Crippled and Disabled Men in 1920. The report can be obtained without charge upon application to the Institute, 101 East 23rd Street, New York.

skilled work at which they might succeed. There is no way except by job analysis of scientifically ascertaining what opportunities any given plant affords for increasing productivity through proper placement. In dealing with the normal employe this is desirable; in dealing with the abnormal it is essential. There is probably no institution which could not advantageously employ some classes, at least, of the disabled, if job analyses were made with this in mind and training provided. Agencies specializing in the vocational placement of the handicapped are always glad to cooperate with employers in the determination of work which may be performed by the disabled or in the productive placement of a disabled man.

The advantages of employing disabled men have been touched on before. It should be added that, in general, better types can be secured for any given work among the handicapped than among the normal. This is so because a disabled employe usually has to accept simpler work than that to which he was accustomed. A machinist who has lost an arm may have to become a machine operator; a machine operator will often have to be transferred to an easier machine. The simplicity of the operations performed by the disabled and the fact that they cannot so readily change their occupations result in the attainment of a high degree of skill among them. Their record of production is usually a spur to normal workmen. Changing positions, too, is infrequent among the disabled. They are much more satisfied to remain for a long time with one institution, both because they are loyal to it and because they realize the difficulty of finding other employment. A low rate of turnover may therefore be expected among them.

Correlation of Specifications for the Same Kind of Work in the Same Plant and in Different Plants

One of the greatest sources of waste in large institutions is duplication of work. In job analysis, not only is it important that studies be not duplicated by persons in various departments, but it is essential that the work be approached from a single angle and with a broad general background of the work of the institution. Authority to make job analyses should therefore be vested

in one person, wherever possible, reporting to a specified department or committee.

In this way it will be easier to recognize similar jobs in the same and in different departments and to establish the same specifications and lines of promotion for them, no matter where they appear. Slight differences in work or conditions will not be given undue weight, and modifications of typical specifications, in such cases, will prevent unnecessary multiplication of job titles and of hiring specifications.

It is usually practicable to do this in any plant. The task becomes somewhat more complex when more than one plant is involved. Even if the same product is being made, the equipment is more than likely to vary, and the working conditions and organization will undoubtedly be different. It is not possible, therefore, to accept job analyses made for one plant in any other. It is not even advisable to use them as a point of departure for checking up work. A far better plan is to let job analysis proceed independently in each plant, under the direction of some one familiar with its problems and management as well as with the technique of job analysis, and then to have the results compared by a competent committee of the job analysts and others interested. In this way the best methods of performing work will be brought out and standardization will be effected to whatever degree seems advisable. It is not to be expected or desired that complete standardization will be obtained in widely separated plants.

Problems for Future Study

Each of the three reports of the Job Analysis Committee has dealt with different phases of the work. Each year as the subject has been approached new vistas have been opened up and new uses of job analysis have become apparent. Last year it was pointed out that the relation of job analysis to scientific management would offer a fruitful field for study. On account of the various other tasks assigned to the Committee this year, it was not possible to touch upon this topic.

The value of job analysis in determining training courses has also appeared to the Committee to be worthy of investigation.

It is therefore suggested that these two subjects be included in next year's assignment of duties.

In order that the Committee may cooperate better with members who are interested in job analysis, to the end that it may pass on the information it has gained and keep abreast of the most advanced development, the chairman will welcome correspondence on this subject.

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MR. F. P. PITZER (The Equitable Life Assurance Society): At the present time we are considering making a job analysis. Naturally we have made many inquiries as to the best method of approach, and we have found very varying opinions. It is my personal opinion, however, that in addition to having a supervisor fill out your job specification card or blank, or whatever you use, to have the clerk at the same time analyze his job. You will find him considering very minor details as the major part of his job. That is a good thing, for it gives the supervisor an opportunity to correct the clerk who might be inefficient because he is emphasizing the wrong end of his work and giving more study to that than to the things which would help him expand and make him bigger. I would like to hear from those who have lived through a job analysis, as to whether allowing a clerk to analyze his own job is good practice or not.

MR. JOHN D. GILL (Atlantic Refining Company): I have been battling with this problem: How can we arrive at an equitable adjustment of wages? How can we find the intrinsic value of any worker? We believe that this is one of the fundamental problems of management, that it is perhaps paramount among those problems created by job analysis. We have not arrived at an entirely satisfactory conclusion. One must determine the various components of the job, what type of person is best suited for the job, and how many people that could fill the job are available, all of which influence the rate that must be paid. I can only say that our minds are very hazy on the whole problem, but we believe that it is paramount among the problems of management.

How much should you pay any particular worker; how valuable is any particular worker in your organization? The economic value of some workers can be measured fairly accurately, because we know the value of the functions performed, or the value of the commodity manufactured, and all the costs, including labor costs, which go to make up the value, but there are many functions, whose value cannot be so readily determined.

MR. L. N. DENNISTON (The Travelers' Insurance Co.): The determining factor in the case of two persons doing identically the same work in the same room receiving widely different pay, seems to me, at least in my observation in our office, that the personality of one is better than that of the other, or the influence of one in the office is better than the other—one leads the other

on personality, the other leads on influence, interest, etc. On a standardization of pay, on the basis of your job analysis, that person would not be recognized in any appreciable amount.

I find in my attempt to interest our executives in the subject of job analysis, they go back to the old rule, referred to as the 'wooden rule,' that, after all is said and done, you must take into consideration the individual. The interest that the individual takes in himself and the way that interest is reflected to his associates. When you get through with your job analysis and standardization, you still have that fact with which to contend, namely, individuality, personality, and similar qualities.

MR. L. A. HARVEY: If you give one man more pay than another simply because he has a better personality, how would you justify this action when the fact becomes known?

MR. DENNISTON: In our organization we have a supervisor for every thirty or forty clerks, and that supervisor keeps in close touch with the individual worker, and wherever any differences come up this supervisor endeavors to smooth them out.

We have a demand for a number of clerical workers, and not a continued supply, and many of us hesitate to establish a system that will tend to standardize the rate of wages, as we are afraid that some good workers would be driven away. We have grown in our organization from 1,300 clerical workers in 1915 to over 4,500 today, while the City of Hartford has not grown proportionately. So we are up against rather a difficult situation, although I doubt very much if we had a large field from which to draw, that we should adopt the job analysis plan or the standardization plan as advocated by many concerns. You know, perhaps, that one of our contemporaries in Hartford has adopted such a system, but they have a force of only 250 people, and when you handle 250 people, it is a different proposition than handling 4,500 in a field where the supply is very small.

We cannot get away in our organization from the point of view, that the individual must be considered. When you begin to standardize, adopt standardization, you begin to stamp out the individuality. When you begin to put boys and girls and men and women in certain grooves, you say you are worth so much money, it seems to us that you begin to hamper individual development, and discourage initiative, and take away incentive for progress.

MR. HARVEY: I should like to ask whether in this job analysis you have taken into account all the home conditions and home obligations. Suppose two men are doing the same character of work, and one is a married man, and the other is a single man, would you make any difference in salary and if you did, would you be justified in doing it?

MR. WILLIAM E. WICKENDEN: In the particular department of the company with which I am associated we have recently put through a comprehensive job analysis program, which bears somewhat on the point raised by Mr. Denniston. We find that the effect of standardization is to narrow down the field of debate concerning payment for any particular job or classification of service. It is possible to fix fairly accurate standards for the ponderable or measureable factors, both as to rates of pay and standards of performance, by a consideration of market conditions prevailing outside the organization. This is best applied to minimum rates of pay which are intended to cover fairly measurable factors in the job. All debate tends to fall on other questions than those relating to pay for objective minimum standards of output, that is, on such imponderable matters as potential value, organization fitness, contribution to morale, and the like. These are matters which can, as a rule, be satisfactorily discussed between supervisors and the rank and file, and the employe can be satisfied that the company is paying a good standard wage for the class of work done.

MR. DENNISTON: We have the minimum standard, but never have had the basic job analysis.

MR. W. D. STEARNS: (Westinghouse Elec. & Mfg. Co.): We have been using job analysis for about four years, and a classification of our work according to value for three years. This covers about 4,000 office people, and 13,000 shop people. Most of our experience has been with the shop employes. I believe that the plans of classifying the work has not taken away incentive, but rather added to it. We are very careful to have it understood that we are not classifying the man but the job. If a man is on a Class C job, that carries a certain range of pay, in order to get more pay, after he has worked through that range, he has to fit himself to do a Class B job, with a larger rate of pay; in other words, we feel there is more of an incentive for him to prepare himself for a higher class of work, and thereby be able to in-

crease his earnings, instead of increasing his earnings on the same job, year after year, for a certain length of time,—we think it is more encouraging to him to be shifted to a higher grade of work, and receive the larger pay in that way.

MR. ARTHUR H. CARVER (Swift & Company): We have not gone through any complete formal job analysis in Swift & Company for the reason that the nature of our business is such as to render such a proceeding hardly worth while. We have, however, done something of this nature in our General Office. We feel that it is one of those things that must be undertaken with intelligence and common sense, because of the very points which have been brought out here.

There are other things to be considered in fixing compensation beside the mere proficiency of the person on the job and relative importance of the work. Our Company believes that certain imponderable things should always be taken into consideration. Length of service, general influence upon morale, versatility and adaptability are among these.

It is safe to say that we do not go on any inflexible principle, that there is an inherent value to the job which finally determines exactly what the person filling that position should receive. We think it is wise, so far as possible, to determine the inherent value of the job as one factor in fixing wages, but it certainly is not the only thing. Moreover, fluctuation in the labor supply disturbs the relative value of various kinds of work almost constantly.

For example, a year ago a certain ratio existed between the value of the services of a comptometer operator and a stenographer at Chicago. There suddenly came a time when comptometer operators became very scarce while the supply of stenographers remained virtually the same in proportion to the demand. Immediately the range of pay for the comptometer girls went up as compared with the pay of the stenographers. After a few months the situation was reversed, requiring a second readjustment.

I would like to know if Mr. Hopf would agree that a job analysis is never a permanent thing when you get it done; that it is in a state of flux all the time, and that unless you thoroughly realize this fact at the outset you are sure to be in trouble in a short time. To be sure, the big part of the work is done when the initial analysis is made, but unless we keep constantly making

readjustments it soon becomes out of date and almost wholly useless.

DEAN R. S. SACKETT (Pennsylvania State College): One of the staggering problems before this country at the present time is the reduction of waste in industry. We have not yet realized, but in the course of the next five or six years, when competition with foreign countries comes once more, we shall begin to realize the vital importance of getting down to the study of saving in industry.

We ordinarily think of industrial waste as a waste of materials, the waste of our natural resources, but the greatest waste, in my judgment, is the waste of human resources due to the fact that we have not remedied one factor, which does not follow the question of supply and demand of human material, and that is the human qualifications necessary in order that a job may be done with the highest efficiency. The men available for it, their number and qualifications, do vary widely, and we shall have these constantly varying bases of paying the men for their labor, it is true, but we shall have accomplished one great thing in the saving of human effort when we have established a relation between the qualifications which we would like to have on the part of the workers and the job that is to be performed.

This has been borne in on us during the last five or six years, because men have not been selected for their jobs on account of their efficiency, but because they were available, and the thing had to be done inefficiently if it could not be done efficiently. But that time has gone by, and in the next few years we shall turn our faces towards a better analysis of the job. We have been doing it, except that we have not been doing it systematically or scientifically. If the personnel department will picture to itself vividly the requirements for the various jobs it has to fill, it will take the first great step towards the saving of human effort in the performing of the processes we must perform. The world has got to pay its debts. How can it do it unless it becomes more efficient? The most effective way to bring that about is in the selection of human labor for the job for which that labor is best fitted.

MR. W. B. STEARNS: May I give an instance, we have been through, showing the administrative value of the job analysis work and the classification, according to value.

The Westinghouse Company has just been through an ad-

ministrative difficulty that probably all of your companies have been through, that of reducing wages. It was put up to our shop committee as to how this should be done. During the war wages were raised on a flat basis, one 10 per cent increase after another, in the form of a bonus. After the war, the policy of the management was to stop that and increase wages on an individual basis. There were two or three increases put through after the armistice was signed, on an individual basis. The classification helped very largely in doing that.

When it came to the case of reduction, the matter was put up to the shop representatives and they voted that the reduction should be made on the same basis, on an individual man basis, rather than on a flat 10, 15 or 20 per cent reduction for all employees.

Both the shop committee and the management felt that the reductions should not be on a flat basis, for several reasons. Things had gotten out of balance, and due to the flat increases during the war, our hourly skilled men were not paid as much in proportion as our unskilled, nor as much in proportion as our operator class of people, who were permitted to earn large amounts of money on an incentive basis, and it was felt that the tool workers had not gotten a square deal. The management decided that the net result should be a 15 per cent reduction of the total payroll.

The work department went into the thing and decided that it would be best to obtain a larger reduction for that class of people who had a larger increase during the war period than for those who had not, thus tending to equalize conditions. We went over that with our classification distribution, and our reductions ran all the way from about 5 per cent to about 20 or 25 per cent for different employees, and when the adjustment was finally completed it came within two-tenths of one per cent of what the management felt we must reach on an individual man to man basis. That result would not have been possible if we did not have a complete job analysis and a complete definite classification of all our grades of work.

MR. BANKS: I believe it to be a help toward finding out the proper rate of pay for a man, and where he should be placed. The proper application of a job analysis, as a result to be achieved, depends as much upon the hirer as on the hired.

CHAIRMAN HOPF: We have devoted a good deal of time to the relation of job analysis to the establishment of equitable wages. What can be said by the members of this group with respect to the other points of the Committee's Report, namely, to make a study of correlations in the establishment of specifications for the same kind of work in the same plant and in different plants? Has any one had experience in the solution of that problem?

MR. A. A. KEISER (National Cash Register Co.): Mr. Deniston, in referring to this matter of job analysis, said that the reason they had not accepted it as a basis for their action was on account of the market conditions. Now, as I understand your remarks, Mr. Chairman, the benefits of job analysis revert to the employe as well as they do to the employer. When you answer these questions which have been asked, will you refer to that particular point?

MR. JOHN D. GILL (Atlantic Refining Co.): We have all over our territory service stations for the distribution of gasoline to the public; their workers who actually serve the public are called operators. We endeavored a few years ago to establish specifications for that job, and included in the specifications such items as appearance, courtesy, voice, nearness to home, liking for outside work, and so on through quite a list of items. Specifications should be reduced to the absolute minimum. We should not be too critical. After an extensive experience with that specification and the securing of operators who would fit the specification, we concluded to boil down our specification to essentially six items, viz.: That the individual like outside work; that he live reasonably close to the station at which he was to work; that he respect the property of others; that he have a mind to follow regulations; that his ambition be not too far above the job; and that he be not lazy.

I perused the report of the Committee on Job Analysis with considerable interest. I noticed that they did not bring out the point, that many of us, in attempting to outline specifications for a job, inject into our specification too many items—items of qualities which are desirable, no doubt, but which cannot be found combined in any individual.

CHAIRMAN HOPF: Mr. Pitzer spoke of having the employes analyze the jobs. By all means, and go one step farther and ask them to make suggestions concerning the improvement of

their jobs. Some of the finest points I have discovered in job analysis come through asking the employes to analyze their own jobs. After they have done this the analysis should be secured from the superior and the two compared. Where they do not coincide, an independent investigation should be made—perhaps this should be done in any event.

Mr. Gill described the condition of his company, and would like to know what to pay for particular work. That is difficult to determine, but once the values of the jobs in relation to one another have been determined the expression in dollars and cents follows as a result. It is not easy, but that is the practical way to do it. Group the jobs in the various zones or levels of importance.

Mr. Denniston spoke of persons receiving different rates of pay, and of how personality affected the problem. I do not know of anything that is more difficult to assess than personality. To my mind, it is a management problem, and the reaction of the rank and file is dependent on the attitude of the management. If a person appears to have a better personality in one business than in another, it may be due to the work surroundings. We are subject to environment, and I can hardly conceive of anybody being so hopelessly engaged in monotonous daily work that he receives no inspiration at all from the job. I know the particular jobs you have in mind, but I am generalizing, and I know how important the question of personality is. I do not think it should enter into the set-up of the general wage scale for any individual job, but it should be taken into account in rating the individual, where personality enters into the equation. For example, I imagine the only kind of personality a telephone operator, cooped up in a little booth in an office building, needs to have is a voice with a smile.

Mr. Harvey spoke of how much the personal equation should be considered in an organization. Of course, it should be considered as the most important thing. The end sought in job analysis is simply to try to do justice to people, and it is not an end in itself. It is simply a systematic means of arriving at information which will guide your judgment in dealing with people, and I would not close the doors to any factor that has a bearing on the question of personality and the future of the individual.

As I look on the personnel problem in an organization, there are as many problems as there are individuals—each one is a complex problem, each one differs from the others. I want to rescue job analysis from any implication of having a deadening influence on the rank and file. It is one of the practical mechanisms of management; but if we find a better one, let us scrap job analysis.

Mr. Denniston referred to the fact that there was no maximum salary in his organization. With due respect to that organization, I have my reservations as to whether that is wise or not. We need to have accurate information of, and control over, labor costs, and by setting maximum rates we accomplish this without unduly increasing the costs. It is largely a question of good management. The obligation of giving the employee a little more than guesswork as to his future rests upon the management. There is too much of the employee selling himself to the organization, and too little of the organization selling itself to the worker. The finest thing an organization can do is to give a man some kind of assurance regarding his future. We should develop and inspire the employees and afford them opportunities for advancement.

Mr. Wickenden spoke of the ponderables and imponderables. Of course, we can only measure the ponderables; the imponderables are the things we are reaching for. The whole science of management rests on the need for developing and inspiring employees, and we cannot allow any rigid methods to stand in the way of getting results. It is a management problem, and not a problem of the rank and file.

We classify the work and not the worker. This is the point that Mr. Stearns brought out. But classifying the work is where we should stop. The worker is gauged according to his progression and how he fits in with the general scheme of things. The whole rating scheme can be effectively carried out only with job analysis as a basis. If you do not have job specifications, you cannot rate effectively. There is nothing more discouraging than the annual or semi-annual performance gone through in many organizations in expressing opinions as to the value of employees. Too often the happenings of the last thirty days obscure the record of the whole year, and too often judgments are reached by prejudice and bias. I believe that any rating of

a subordinate made by a superior should be made accessible to that subordinate as an effective method of checking up and getting sound judgment on the part of the superior.

Mr. Carver raised the point that other things were to be considered besides efficiency in the work. That is fundamental. The mere rating of employes according to the performance of their jobs may give a temporarily good result; but management should always be on the alert to discover and reward merit, particularly in the recognition of qualifications which distinguish an employe and mark him for promotion. Sometimes, though, an individual may not measure up well to the specifications of his job; he may have some vital, humanizing quality which will compensate in getting results, while others cannot get them. With regard to the promotion of technicians to positions of administrative authority, I believe that technicians should be staff men, and that the administrative position may be filled by a manager who need know little about technique, but should know how to manage and get results.

Job analysis is an unending process; it can never be finished, for conditions are changing all the time. It is, as was said by one of the speakers, in a condition of flux. There is no particular science about it—jobs should be analyzed systematically, if you please, and scientifically, if you can, and those who perform the function of job analysis should be at it everlastingly to keep pace with changes. Work out a plan of organization, leave it for two years and go back to it, and you will not recognize it again, for it has been changed in many of its essential features, and often things have been done by people who have rushed in where others feared to tread.

Dean Sackett touched upon a fundamental subject in speaking of the waste in industry. I wish he had made a reference to the report of a committee of the Federated American Engineering Societies on the subject of waste. That report went to bed rock, and disclosed some things which should occupy our efforts for some years to come. The human waste is the greatest. I do not wish to speak too emphatically of job analysis in that connection, but it is a common sense way of checking the waste, and in the course of time it has an educative value on those who are concerned with it, which is of no inconsiderable importance.

The personnel department should have the job specifications constantly before it. They should be the bible of the salary committee, the bible of those who hire and train, of those who correct and of those who inspire. Specifications should be worked out jointly and by gradual development brought to a plane of relative perfection.

If the thing is done well, by all means, as Mr. Keiser stated, it is of benefit to the employe as well as to the employer. It cannot be one-sided, it cannot be a mechanism of management used to hold wages down, and to keep things rigid for the purpose of exploiting employes. It will, on the contrary, point out the paths of promotion, for no job specification is complete unless it shows the job next ahead, and has, in effect, written across every page of it, a standing invitation to the individual to qualify himself for that job. In all the job specifications that fact should be made as definite as is humanly possible, so that it will be an inspiration to the new employe, serving in the rank and file, and will furnish that incentive without which the work is not worth while.

Finally, Mr. Gill spoke of the elements of brevity and simplicity. It is a man's job to get these specifications down to the point where they are so simple that anybody can understand them. That is one of the objects that should not be forgotten. Let us see what is necessary for the job and interpret it broadly, humanly, and sympathetically, so that those in the jobs will be guided and inspired. Finally, to repeat what I said before, job analysis is simply a means to an end, and I regard it as one of the most important ways of doing justice to employes.

(The meeting then adjourned.)

TRAINING FOR FOREIGN COMMERCE

TUESDAY AFTERNOON

PRESIDENT KINCAID, Presiding

PRESIDENT KINCAID: I shall present the report of the Committee on Training for Foreign Commerce, as Mr. Cooper, Chairman of the Committee, is not present.

The World War and the building up of an immense fleet of American ships afforded us an opportunity that has never come to a nation before. We found ourselves with an immense fleet at the close of the war; and we found ourselves with an immense industrial establishment capable of producing great output, but we did not have much foreign trade, and we were not prepared to enter the field.

Surely 8 per cent of the world's population cannot consume all we produce, although we know that the United States of America, per capita, is the largest consumer in the world, and our internal commerce the largest in the world, but still there remains an immense quantity of these products that must be sold in foreign markets, and the question is how to do it scientifically and skillfully. If, as has been pointed out at this convention, we are so inefficient in developing the people in our own industrial plants where we have them under our own guidance and direction, how much more difficult will it be to handle this world commerce?

I have had a little experience, personally, in the foreign field. Ten years ago I was sent by my company to England, to either sell the foreign rights to manufacture our goods or to establish a company there, and we decided to establish another company. I had never been in Great Britain before. I had about four or five letters of introduction, but I knew very little of the British characteristics and customs, except what I gathered from reading Dickens and other English authors. I had made a few trips into Canada, and I had had some experiences with our friends in New England. I had been to Boston and did business in the East, and that is a good stepping-stone for doing business in

England. Our New England friends have kept up the English characteristics more nearly than any other people in America, and Boston more nearly represents London than any American city, unless it is Philadelphia. I am of the opinion that my living in Philadelphia and trading in Boston had given me a sort of entering wedge in learning English characteristics, and I had the experience of establishing a company in London. Well, when I got to England I found I had many things to learn. I had a superabundance, maybe, of that American initiative that we all have, that causes us to "rush in where angels fear to tread."

I should like to draw attention to one point that is very important in going into a foreign field—whether it is in Great Britain or South America or the Far East—there is a great necessity for learning the customs and the habits of the people, and conforming to their methods and their customs. This is true, not only with regard to personal contact in methods of doing business, but it holds true right down to the packing of your product and the marketing of it. In going into a foreign field, it is very necessary for you to study the demands of the people, and try to fit their demands and not try to make them take your product as you produce it. That, I believe, has been the great secret of success of the German industries before the war. The German companies had their agents in every foreign country, and the German agent made every effort to have his company conform to the needs and demands of the customer in the foreign fields, and the companies were very careful to conform to these demands.

COMMITTEE ON TRAINING FOR FOREIGN COMMERCE

CLAYTON S. COOPER, *Chairman*

W. R. GRACE & COMPANY
New York City

PAUL MOORE

SERVICE MOTOR TRUCK COMPANY
Wabash, Ind.

W. D. ANDERSON

ATLANTIC REFINING COMPANY
Philadelphia, Pa.

ALLEN L. BILLINGSLEY

BENJAMIN FRANKLIN INSTITUTE, INC.
70 Fifth Avenue, New York City

A. O. MILLIKEN

ARMOUR & COMPANY
Union Stock Yards, Chicago, Ill.

O. B. MITCHAM

GENERAL MOTORS EXPORT COMPANY
120 West 42nd Street,
New York, N. Y.

TRAINING FOR FOREIGN COMMERCE

It is a national American characteristic to do everything excessively and not to do anything by halves. Of late this trait of enthusiastic acceptance of opportunity in foreign commerce has captured a considerable and growing portion of our population. Our youth returned from France with a new vision of world races and world possibilities. They besieged our great export, shipping and banking houses for positions that would align them with activities abroad. The sea and ships have caught the imagination of thousands of young Americans for the first time and South America, South Africa, China and East India already contain men who have been sent freshly forth during the past two years by American firms to represent them in foreign offices. Never has there been such a demand for men or for information regarding overseas trade, never so many questions asked relative to opportunities abroad. Men come to our foreign trade houses from schools, from the professions, doctors, lawyers, preachers, writers, and even women, asking for places in this new activity that reaches around the world.

There is evident reason for the belief of these men, in our country's opportunity in trade overseas, for recent statistics gathered by the Department of Commerce at Washington show that, while before the war, the United States ranked second to the United Kingdom as an export nation, we now have the largest foreign commerce of any nation in the world. We have the authority of the Bureau of Foreign and Domestic Commerce for the fact that for the fiscal year 1919 the exports of the United States more than doubled those of the United Kingdom.

Since 1914, our South American trade has more than doubled, while our exports to the Orient and Australia show an even greater gain for this period. With our expanding resources and with the new alertness on the part of our business men relative to overseas trade in general, there is no reason why foreign commerce as a vocation should not open one of the most fascinating and lucrative fields for American trading.

An instance of this natural sweep of opportunity is given in the fact that we in the United States have over one-half the known coal of the world and two-thirds of the world's cotton. While we have only 7% of the world's land and only 8% of the world's population, our production of the world's supply of basic raw materials and grains is 50%. We produce approximately 25% of the world's wheat, 40% of the world's lead, 50% of the world's zinc, 50% of the world's coal, 60% of the world's aluminum, 60% of the world's copper, 65% of the world's cotton, 65% of the world's oil and 75% of the world's corn.

Since we are unable to consume at home the total of these vast products, export trade is becoming a necessity for us and if we have the men properly trained to enter this open door we ought to be able to do the manufacturing and carrying of the foreign commerce for fully one-half of the world; but we must have men trained to operate our new ships and an ever-increasing flow of workers for shipping offices and shipyards, else our American Merchant Marine becomes an economical danger rather than a great promise. We also must have men who will accept the opportunity for preparation in foreign banking if we expect to go out with success along the highways of world commerce.

For, after all, this game of trade with other nations is just beginning for us. It is to us largely a new game, and it is highly specialized. As a nation, we do not yet know the rules. Our competitors are seasoned traders with scores of years of experience behind them, and what is more vital, they feel the urge of necessity for seeking trade outside their own borders if they are to survive in the family of nations. There is no doubt that we, as a people, have the imagination, the energy, and the practical genius to enter into this competitive struggle for world markets, but, unless we give attention to our training, we shall come off as badly as many an upstart trading house that began to seek markets during the war, all unprepared, and even yet is wondering why it lost its money and its time.

The Duke of Wellington said that the battles of England were won on the playing fields of Eton and Rugby where English youth were trained to play the game of life and to play it fair. Likewise, foreign trade, partially at least, is won at home before the youth go forth. It is here that they must imbibe the elements

of success which will enable them to "fall on their feet" amidst alien peoples and to hold their own against the trade veterans who have weathered many a business battle on foreign shores.

First of all let no one deceive himself into thinking that the characteristics that win in foreign trade are a kind of mysterious sleight-of-hand, something that goes along with learning Spanish or Chinese. Foreign trade is not an exercise in legerdemain. The fundamentals are the same traits that make a man succeed at home. It is the spirit of the man that wins quite as much as his knowledge of method. It is the quality of the man quite as much as the knowledge of export quotations that determine the result.

One of the first necessities for a successful foreign trader is a wide vision. It is easier to do a big thing than a small thing, and the first essential is the man who can visualize an enterprise of great proportion. John Ruskin once said "The greatest thing that any man can do in this world is to see something and then go and tell his vision in a plain way."

The foreign trade business has no fixed horizon. It is written upon the skies as upon the seas; the airplanes and the ships are to be the carriers of food as well as of products in the next generation to the earth's farthest lands.

I know an American manufacturer who was able to visualize practically all the inhabitants of Asia using his carriages and rickshaws that he would make in a town in New Jersey. As a result today the American traveler rides in these American conveyances in nearly every country in the Orient.

World trade is not for the narrow-visioned. It means a map of the world on one's desk. Beginnings may be small and slow, but the foundations must be laid, both in the mind of the manufacturer and his agents whom he inspires, for a structure of business worldwide in its reach. Such a merchandising and shipping firm as that of W. R. Grace & Co., which now counts its 20,000 employees, with 150 branches in 24 different nations, began in the vision of one man, W. R. Grace, the founder, who, although he began the firm in a small ship chandlery on the coast of Peru more than 50 years ago, laid its structure upon principles that he felt sure could include a wide world of trade. Foreign trade

must be built for permanent rather than temporary results. This requires vision.

Let a man feel that he is bracing himself against a world task; let him lay patiently and deeply the groundwork of his training and confidence, for it is here trading companies win or lose even at the beginning. The first principle of success is a world eyesight; a short vision is suicide in foreign commerce.

There is, furthermore, no realm of business in which perseverance and dogged determination, even despite many failures and losses, are more essential than in foreign commerce. The trader must add to a big vision—resolution. Nothing short of a cast-iron purpose will weather the vicissitudes consequent upon getting on with a new language, new customs, strange peoples, homesickness, unusual temptations and the onslaughts of his competitors. A man may be trained to a nicety in the regulation methods of trade, language, shipping rules, invoices and selling arguments, but, if he cannot brook failure and discouragement, let him not enter here! The need is not merely for able men, but it is always for determined men, men who are not afraid to work and who will “never say die.”

Mr. Edison was asked once to define genius and he answered, “Two per cent inspiration and ninety-eight per cent perspiration.” “It is dogged as does it,” said Charles Darwin.

We met a man, a southern youth, in a flourishing town of South Brazil. He was the only American in the place. He had been trained in railroading in a good school of experience in the States and he knew how to manage an American railroad. In Brazil, however, with indifferent labor, with a strange climate, amid people whose manners and methods and laws were new to him and offered many obstructions, the railroad game took on different proportions. I watched him working at the complicated task, in that section, of securing proper cars and trains to get a large shipment of Parana lumber from a saw mill on the edge of the jungle down to the sea coast. Being impressed with his efforts, I asked him what trait was most essential for a young American to possess who went railroading in South America. He thought a moment and then answered: “The grit to hang on.” As I followed that man for several weeks through the forests and over the newly laid railway trails of Southern Brazil, watched

him adapt himself to foreign labor that included Hollandaise, Portuguese, Hungarians, Swedes, Italians and Brazilians, always finding him personally on the job both night and day, restoring washouts on his roads, devising new lines, haggling with native officials for concessions, drinking mate with his laboring men in the jungle, foregoing comforts and spending wakeful nights figuring his way through difficult and well-nigh insurmountable problems, I became convinced that his key to the things that succeed in foreign lands was worth considering. I thought of Napoleon's famous dictum to his soldiers in his Alpine campaign when he said, "There are no Alps!" and his other trenchant phrase, "Difficulties are just things to be overcome."

A foreign trade pioneer must be a fighter in spirit. The foreign field is no place for the indolent, the spender or the idler. He must train for conflict and not for an easy job.

It is this fighting opportunity which helps to make the field attractive to the American who is not accustomed to stop at hindrances when his ambition is fired. The Yankee love of enterprise, coupled with business daring, is usually successful.

Apart from these general essentials which we are too likely to take for granted and omit in our training plans, there are other more concrete but none the less important elements in which we must train men for foreign commerce. These men must be in a position to know where they can get authoritative answers to such questions as the following:

"What are the conditions in foreign markets for particular products?"

"Where can I get details of customs duties in foreign countries?"

"Who can tell me relative to the regulations as to commercial travelers, taxes imposed upon them, etc.?"

"Where can I get such details for foreign countries as advertising rates and the credit standing of prospective foreign customers?"

"What are the best books on packing, consular requisites, standard weight and measure, patent and trademark laws?"

"Where can I get up-to-date lists of foreign buyers for my goods?"

"Where can the information be found concerning shipping conditions, forwarding goods and financing my shipments?"

"How can I learn about foreign contracts and the particular needs of the dealers who handle my products in other lands?"

"What about marine insurance?"

"Is there an authoritative bureau for the translation of foreign correspondence?"

"What are some of the most worth-while periodicals relative to foreign shipping and trade?"

The man who is to become a specialist in his field must know something at least of all the above subjects, for specialists in foreign trade require something more than the definition which one man has given of a specialist—"a specialist is a crank on the thing in which you are not interested." He must have a general trade education to be sure of the highest success.

Among the agencies which are devoting a vast amount of time, attention and money to the answering of the above questions is the Bureau of Foreign and Domestic Commerce of the United States Department of Commerce in Washington, D. C. This bureau employs scores of men constantly to make digests of consular reports, together with the findings of the travelling trade advisers and commercial attachés of the United States, as well as gathering trade information from many other sources. In connection with this bureau there are specialists connected with such matters as foreign tariffs, foreign customs rates, commercial treaties, trade-marks, patent laws, and almost every kind of service connected with exporting, importing, and shipping. Their information has brought millions of dollars of trade to the American manufacturer, and a letter to this bureau concerning any of the above questions will bring the latest information for the price of a pamphlet, and often free of charge. The Exporters' Index of this bureau contains lists of 17,000 firms in the United States known to be interested in exporting. The bureau has permanent offices in a number of the large cities in which lists of foreign dealers may be found, which lists are continually in the process of revision. We have found the members of the Bureau of Foreign and Domestic Commerce extremely courteous in promptly answering requests for information, and the fact

that the United States Government is behind the bureau and is expending a large amount of money for its extensive operations and services makes authoritative the information. This bureau also emphasizes the fact that the United States has come into the foreign trade field to stay. For a small sum the weekly Commerce Reports of this organization, which give a sweep of the world's trade, are sent to anyone who is interested.

Other important information for training purposes may be secured from the reports of the National Foreign Trade Council. These may be secured by writing to Mr. O. K. Davis, secretary, India House, 1 Hanover Square, New York City. This council is composed of the leading men engaged in foreign trade and shipping, and its reports cover virtually every phase of world-wide commerce.

Trade and export papers and books such as those published by the McGraw-Hill Co., Dun's Review, The Iron Age, The American Exporter, The World's Markets, and Export Trade, will be found of help in such training, for these take up special branches of foreign enterprise and are edited by specialists, many times men who have devoted years of their lives in practical and experimental touch with their specialties in foreign lands.

The Pan-American Union issues literature upon all Latin-American countries which has been of very great assistance in showing the political as well as the commercial condition of these republics and outlining the open doors for commerce with the United States. This literature may be had by applying to the Pan-American Union, Washington, D. C.

We also recommend the books published by Isaac Pitman & Sons, 2 West 45th Street, New York City, such as the Pitman Commercial Encyclopedia and Dictionary of Business (in four volumes), the Exporters' Encyclopedia, and the publication of the Gresham Publishing Company, London (British compilation), Modern Business Practice (in eight volumes).

There are also many sources of information available to the foreign trade student in the United States, such as the reports of the American Chamber of Commerce, the wide information gathered by the Philadelphia Commercial Museum and the more or less regular statements and bulletins of information issued by

such organizations as the National City Bank, Guaranty Trust Co., and W. R. Grace & Co. In nearly all of the large cities there are Chambers of Commerce or Boards of Trade whose secretaries are able to give information through their foreign trade departments or industrial bureaus. In some cases, as the Merchants' Association in New York, an active foreign trade information service publishes this material in weekly bulletins, and while local matters are included, foreign trade problems and opportunities are not neglected. There are also American Chambers of Commerce abroad from which important information can be gained. In Paris, Berlin, Constantinople, Naples, Barcelona, Rio de Janeiro, and Buenos Aires, these American Chambers of Commerce have been of great service not only in producing a better trade understanding, but in assisting American manufacturers and business men with particular information. The Federal Board for Vocational Education, at Washington, has outlined courses of reading in foreign trade which it will send to anyone interested.

It must also be remembered that our American Consuls, located now in every great city in foreign lands, will be glad to answer questions and secure information when these questions state definitely what is desired.

It has been stated that, while the North American takes the shortest road between two points, the Latin American uses always the prettiest road. To disregard the usual custom of social or business etiquette in a country simply because we do not follow such custom at home has been the death-knell of too many of our otherwise well-equipped business pioneers. The social life is a great business factor in foreign lands. It is a means to an end and should be considered in training as well as knowledge of merchandising and banking.

It is probably true that the majority of successful Americans who have gone to South America and built up trade for their American houses have not been college men. Nevertheless, other things being equal, the man who has a background of collegiate knowledge is more likely to succeed with the type of mind found in South America than the man who is "all business," with no ability to lighten his conversation with thoughts in the realm of

what is known as "general knowledge." I happen to think of a young man who devoted much of his thought in college to architectural study, who claims that this one department of knowledge concerning which he knew something definite, has helped him more than any other one qualification in securing a foothold in one of the large South American cities. Entrances to business often come through avenues in which the arts play an important part. The South Americans love music and painting, and among them there are most excellent architects, musicians, and artists. They like to talk upon these subjects, and the educated man who interests them and is likable, gains a hold naturally that reflects profitably upon his business success.

A qualification undeniably important for men, young or old, in going abroad is that which includes habits of life sufficiently well grounded to insure straightforward and upright living in a foreign land. While it is true that most business houses rightfully demand practical results from their employes, both at home and abroad, and do not inquire too strictly into a man's personal habits, it is important in choosing men for foreign positions to be reasonably sure that these men are not going to make shipwrecks of themselves and their company's interests by losing their heads simply because they are far away from home and placed among people whose points of view, both moral and social, are often different from our own.

Furthermore, the American business man is often located in more or less lonely posts and for a time, at least, may be deprived of the society and amusement to which he has been accustomed at home. Therefore, the man with a trained mind, who has some mental resources of his own, who can endure spending an evening alone with a book or with a friend, and who is not dependent upon the stimulations of Broadway or the like, is much more likely to succeed abroad than the one who depends upon external environment rather than upon his own inner resources for satisfaction.

It is certain that by vocational study a man must greatly advance in the province of foreign trade. To this end, we quote a paragraph taken from a very important and suggestive pamphlet issued by the Department of Commerce under the title of

"Training for Foreign Trade" which can be secured from that body by referring to Miscellaneous Series 97.

"For argument, we may say that a young man enters an export office at sixteen, is a salesman at twenty-six, and a manager at thirty-six. It is usually a twenty-year pull to the position of manager. Yet it is possible to cut down the twenty years by substituting vocational study for some of the slowly acquired experience. For example, by studying until nineteen or twenty the managerial rank may be reached at thirty—a gain of six years in a young man's life, in addition to greatly increased efficiency in the work done along the line of progression. The young man on the job may likewise reduce his term of apprenticeship by supplementing actual working experience with systematic vocational study."

Finally, we would urge the increasing use of our schools (night schools, commercial and technical schools, and colleges). Our business houses, which in many cases have already begun to train their men in classes for work abroad, also our press and our trade periodicals all point to the need of getting ready for American foreign commerce. Trained and capable men are required for foreign branch managers, for salesmen, for office workers, as well as for equipping our new merchant marine. No word is more strategic or vital in the realm of our overseas activity than the word—Preparation.

Practical Methods in Use in Business Firms for Training for Foreign Commerce

In order to be able to present for suggestion and direction the concrete methods now employed by some of the largest American firms and educational institutions to fit men for foreign trade positions, we sent the following questions to a carefully selected list of business houses and schools:

1. What agencies do you employ for training your employes for work in foreign countries? (Kindly describe any agencies or methods employed, such as courses of study, publications, welfare work abroad, libraries, reading courses, etc.)
2. What books or literature have you found most helpful for the purpose of giving your men general or specific knowledge concerning your trade abroad?

3. Does your company meet in whole or in part the expenses of employes who are studying outside to better prepare themselves for foreign service in your firm?

4. Is there any particular class of men from which you recruit your force of employes?

5. What in your judgment is the comparative value of college men for foreign trade service in comparison to men not having a college training but who have had considerable experience in the firm's business?

6. What do you consider some of the most vital means for fitting men to take responsible trade positions abroad?

Among the answers received we quote the following, which we believe will be read with much interest and profit by all those now training their men or by those firms wishing to inaugurate systems of training to fit their employes for better service overseas:

The Standard Oil Company, New York City; C. R. Dooley, Manager, Personnel and Training.

"Our policy is to confine our training to men especially qualified to take up this particular work. We, therefore, eliminate poor material before the class starts and are thus able to concentrate the training on a few specially qualified men. These men in the past have been selected from the various universities and from our own organization. We are striving more and more to find among our own employes any who are particularly suited to take up this training.

"Our classes are composed of about twelve men, six or eight of whom are given the foreign service training. In the past these classes have been started every ten weeks, covering a period of twenty-six weeks. We aim chiefly to teach the men the details of our business, the manufacture of our products and the organization and function of the different departments in our company, in particular the foreign departments operating in the locality to which each man will be sent.

"The course consists of ten weeks of practical experience in our refineries, where, under the supervision of an instructor, the men learn the manufacture of our products. They are then

transferred to one of our marketing fields for ten weeks, where, also under an instructor, they learn how we market our product and how our substations and general offices are managed. On the completion of this work they are transferred to the New York offices for six weeks, where in the various foreign departments they finish the training. During these twenty-six weeks they are trained by actual experience rather than by observation of the work.

"In addition to this the men are given a course in the language used in the country to which they will be sent. Each week an officer of the company or a department head gives a lecture on some phase of the company's business, so that they will get a broader experience of the work they will undertake.

"A library of technical books is furnished to assist them in their refinery work. Also from time to time, depending on the particular work to which a man is assigned, other books are recommended.

"During the period of training the men are paid twenty-three dollars a week, in addition to any expenses incurred in the performance of work assigned.

"We do not restrict our work to college graduates, as we believe this is unnecessary, but we do stipulate that a man shall have had the equivalent in business experience. As a matter of fact we send a great many college men who apply to us for work out to one of our plants to get that practical experience which we deem to be of vital importance, not only because of what he may learn but also as a further test in judging a man."

From W. R. Grace & Co., New York City.

"As a matter of vital importance to such organizations as the Grace Company consists in the conduct of educational classes, intended both to bring students together in close personal contact and work to a common end and to fit them for particular fields of activity. In the home office of W. R. Grace & Co. these classes meet on Tuesdays and Thursdays from five to six forty-five on the following subjects: Elementary Spanish, Intermediate Spanish, Advanced Spanish, Commercial Geography, Talks on Accounts, Typewriting Course (given in small groups of three, four and five persons).

"In addition to these regular courses, special training is given for particular students and a series of lectures running through the year, upon subjects of most vital moment in the activities of the firm. Some of these lectures are given by heads of departments or specialists in the organization itself, while occasionally outside lecturers are secured.

"A further assistance to the mental training of individuals is afforded by a carefully chosen library, a portion of which is filled with books for circulation and the other portion with reference books. Hundreds of members of the firm, at the home office, borrow these books every month for two weeks' reading, while the Editorial Department is constantly in demand by various members of the house who wish to consult maps, dictionaries, trade encyclopædias and various works in different languages, as these relate to their several departments.

"The larger firms and corporations today, in many cases, are composed of departments—each department forming almost a special business in itself. The tendency for specialization often works against co-operative unity. It is difficult sometimes for members in one department to have even a general knowledge of the varied activities of a large firm, thereby suffering a severe handicap relative to their own particular specialty. The monthly house organ or corporation magazine furnishes a bond of union between employes often scattered throughout the country or the world. In these magazines, we find the personal element forms one of the most important features. The narration of personal events concerning the officers and employes of the firm, the publishing of pictures of persons in groups or individually, the just personal mention of long service or particular examples of efficiency, are all matters of great advantage in cementing the work of the house and in developing the sense of personal responsibility and privilege on the part of the members. No matter how seemingly unimportant the work of an employe, it is always vital to his best output to emphasize, in his mind, the necessity of the highest grade of work on his part if the business is to succeed. It is this catering to the great value of the individual that has made many a firm succeed beyond its competitors.

• "The social club and, in foreign countries, the club or mess

where employees live together, are means which have been found useful in developing and strengthening the personal element in the Grace organization. The Grace Club at the home office consists of 874 members, and during the year it is exceedingly active arranging dances, dinners and outings during the spring, summer and autumn months, as well as organizing athletic teams for baseball, football, tennis, and even a riding club. At these social gatherings the directors of the firm are usually present and frequently in brief speeches give emphasis to the human side of business. The mixing together for personal acquaintance, however, is one of the chief benefits of such gatherings.

"Clubs of similar nature are held in other cities and countries where the branch is sufficiently large to make the need and possibility evident. One can hardly estimate the value of what is called the "mess" or "club house" where the employees join in certain foreign cities, having their own housekeeper and arranging for their own life together. This is particularly important for the personnel in isolated spots, for example, the nitrate fields of Chile, where living conditions would otherwise be difficult and attended by all kinds of handicaps, temptations and discomforts.

"Among other indications of attention to the welfare of the employees, W. R. Grace & Co. has a physician at the New York office. With his assistants, including a trained nurse, he cares for the health of the 900 or more employees there. Any employee of the firm has the privilege of consulting the physician and securing medicine and treatment free of charge—a privilege which is greatly appreciated and which is intended also to increase greatly the sense of appreciation, on the part of the employees, relative to the attention of the house to their personal welfare.

"Above and beyond all of these practical and far-reaching agencies, in recognition of the fact that the men and women of our business houses are the vital factors in production, a successful house will lose no opportunity to develop, among its employees, the house esprit de corps.

"In my contact with this house in various parts of South America, I have been impressed with what is called the 'Grace spirit.' The attempt is made, successfully for the most part, to show the various agents and men connected with the company that the house represents a great American enterprise, and that

each representative stands for something more than a mere business agent, in fact, that he reflects the ideals of the nation behind him.

"I was much interested in the club or the mess, as it is often called, where Grace men live together in South American countries. A house is rented and made homelike as a place for the men without families. A steward and treasurer are elected, and the house is equipped with reading matter, billiard tables, pianola and other conveniences for producing a homelike atmosphere. Many of the plants are situated far away from the cities and these clubs are virtually oases in far-away sections of Peru, Bolivia, and Chile, where the comforts and amenities of civilization have not yet penetrated.

"In the great nitrate community of Chile, for instance, there may be only a small circle of Americans representing the officers, possibly half a dozen or nine men who are responsible for running an enormous plant. Outside is the camp for workmen. The evenings for Americans in such localities are likely to be a nightmare of loneliness. There is lack of companionship and social opportunities such as those to which the men have been accustomed at home.

"The company has been quick to appreciate this fact and to provide, not only comfortable quarters, but to establish customs intended to give the officers a life by themselves, and to prevent such unfortunate mixtures with the camp community as would disrupt discipline and morals. I found it the custom for every one of the official staff from the manager down, after work was over, to don a dress suit or dinner jacket preparatory for dinner, while afterwards, opportunities were offered for games and amusements in the club. As one man put it, 'None of us are inclined to find our way down to the camps in a dinner jacket. When you put on the dress of a gentleman you are inclined to act like one.'

"On the big sugar estates at Cartavio, in Peru, a church has been founded, also a schoolhouse, a hospital, and a moving picture theatre. The influence of these organizations has been manifested directly upon the community of workmen. Formerly it was customary during the holidays for "everyone to get drunk for a

week," according to the statement of one of the men. One of the dealers in chicha, the Peruvian national drink, stated to a manager that, as a result of the church and theatre he had been obliged to go out of business, for while he had been accustomed to sell ten barrels of chicha certain holiday periods, it was now impossible for him to get rid of more than one barrel. It has further resulted that, instead of several days of shut-down on account of the dissipation of the holidays, there is rarely more than one day of stoppage on the estates through any inability of the men to work as a result of excessive indulgence in drink. The Grace Institute has helped in making these isolated plantations and estates enjoyable and livable. Last year, 200 presents were sent down to this particular sugar estate at Christmas time, with several hundred boxes of candy and other gifts. Such work, as one man said, 'has put Christmas on the map in this community.'

A glance at these efforts toward the building of foreign trade impresses the fact that the United States, through the medium of its business men, is confronted with a diverse problem relative to the enlarging commerce with other nations, and especially with South America. Undoubtedly the merchant marine comes first as a primal requirement, but ships are only one part of the problem. They are carriers only, and the development of trade depends upon a variety of agencies, such as are here outlined, that have been wrought out through seventy years of experience by one American firm. What W. R. Grace & Co. have done in South America, other houses can do, and doubtless will do in the coming years. It will be easier, furthermore, for American traders and merchants and steamship men to plant their work in the foreign soil of Latin America because of such far-sighted and efficient pioneering. W. R. Grace & Co. is one of the American houses which have successfully led the way. These men have revealed, for government and for manufacturers and shippers generally, some things that can be done.

"The insistent question which every enterprising business house of our country must face today is this: 'How can our particular house most quickly and efficiently fall into line along the great trade routes that lead to South America, thus casting out a sheet anchor for our future, and adding the commerce of the seas to business at home?'"

"We have presented the preceding facts in order to prove that one of the chief essentials in bringing about successful business enterprise is the existence of outstanding personalities and also the infusion through the entire organization of the spirit of cooperation and human leadership."

*American Locomotive Company, Schenectady, N. Y. L. L. Park,
Superintendent of Welfare.*

"The men selected for work in our Foreign Department are usually given a two-year course of training in the engineering and manufacturing departments, as well as some experience in the foreign office of the company in New York City. The shop training is intended to familiarize the men with the company's manufacturing methods and standards of workmanship, while the engineering experience covers the important elements in locomotive design and general calculation pertaining to the proportioning of locomotive parts. Literature is supplied dealing with the locomotive and the company's practice, and in most cases the men have taken special evening classes relating to locomotive work.

"After the preliminary training and service in the home office of the foreign department, these men are placed as assistants in the sales offices in foreign countries and are advanced according to the ability shown.

"Such outside study as is required to prepare men for work in the foreign department is usually borne by the individual, but not infrequently the expense has been partly carried by the company.

"Recruits are preferred from among college graduates, particularly those who have taken mechanical engineering courses. It has been the experience of our company that college training has a decided advantage in developing a man's initiative and enabling him to analyze conditions relating to his work and find solutions for the problems presented, to an extent not found in most men who have not had college training.

"We believe the important elements in the training for foreign service are:

(a) A thorough knowledge of the company's mechanical practice.

- (b) A knowledge of the essentials of its engineering practice.
- (c) The handling of responsible work in the home office, which would give an appreciation of the relation of work in the foreign field to that of the industry.
- (d) The development of sound judgment in business relations.
- (e) A knowledge of modern salesmanship.
- (f) A clear understanding of the characteristics of people to be met with in the foreign field."

The Atlantic Refining Company, Philadelphia, Pa.—W. D. Anderson.

"(1) Question.—What agencies do you employ for training employes for work in foreign countries?

Answer.—Principally practical work, coupled with current discussions between departmental managers and myself, or my assistants, in addition to which a library is at the disposal of the members of the export department.

(2) Question.—What books have you found useful for studying trade abroad?

Answer.—Practical Exporting, by B. Olney Hough; Exporters' Encyclopedia, and trade magazines.

(3) Question.—Does your company meet in whole or in part the expenses of employes who are studying outside to better prepare themselves for foreign service in your firm?

Answer.—Not regularly, although it has been done at times. Sometimes covered by an adjustment in salary.

(4) Question.—Is there any particular class of men from which you recruit your force of employes?

Answer.—Always prefer stenographers with a high school education or better, although individual fitness on the basis of exhaustive tests, made before employment, is the determining factor. Always prefer men with export experience, and preferably a knowledge of languages.

(5) Question.—What in your judgment is the comparative value of college men for foreign trade service in comparison to men not having a college training but who have had considerable experience in the firm's business?

Answer.—The college man's value lies principally in his better mental training to grasp and apply facts and generalize experiences, although in case of a choice between a poorly gifted college man and a talented man without college training, the latter would be taken in every case. Experience in the firm's business is always a valuable factor, but not as determining as the experience in foreign trade, at least in the case of service in the home office. In the case of foreign service, the experience in our line of business is one of the chief factors, but only secondary to personality, power of analysis, and general superior ability.

(6) Question.—What do you consider some of the most vital means for fitting men to take responsible trade positions abroad?

Answer.—Provision of extensive training and study in offering tasks that involve responsibility, self-reliance and quick action, to test and develop initiative."

American Trading Company, New York City. Chauncey S. Truax.

"(1) Question.—What institutions do you consider to be doing effective work in training students for our foreign trade?

Answer.—W. R. Grace & Co., National City Bank, American Trading Co., Arkell & Douglass, Guaranty Trust Co.; Harvard and New York University and other colleges that give a certain amount of theoretical training.

(2) Question.—What books have you found most useful to suggest to schools or business corporations for use in such training?

Answer.—'Practical Exporting' by Hough; 'Foreign Exchange Explained,' by Escher, and certain bank publications.

(3) Question.—Could you suggest certain places where schools or colleges are cooperating with business houses in training men for overseas trade?

Answer.—New York University, Columbia University and Harvard University.

(4) Question.—What do you consider to be the most vital subjects to be taken up in a course of study intended to fit men for foreign trade careers?

Answer.—Routine necessary to exporting and importing—a certain amount of export finance—concentration and common sense—general executive ability and the power to handle adequately much detail work and to assume responsibility.

International General Electric Company, Schenectady, N. Y.
R. F. Coggeshall.

"I am sorry to say that I cannot answer your questionnaire in a manner which will be very helpful to you, because we have not yet carried our work far enough. Indeed we are just beginning to start it. The following answers will however inform you in a general way what we have in mind.

"We are going to start a classroom course consisting of approximately 40 lectures with correlated reading covering the organization and general methods of our company, an outline of the theory of business, banking, credit, instruments of credit and payment, foreign exchange, foreign customs and duties, an outline of the theory of accounting, a study of markets, national characteristics, methods of exploiting business, governmental regulations and commercial law in foreign countries. It is needless to say that our course will merely touch the "high spots" of these subjects, but we hope it will stimulate interest and lead to further reading and study by the men who take the course. A library will be created so that suitable books and publications may be available. It is intended to have practically all of our men take this course, and the course will undoubtedly be modified from time to time as a result of our experience.

"We already have started classes in Spanish and French, and these are fairly popular. Progress is not very rapid in the time which can be given, but I hope that in the course of another two years the advanced classes will develop into groups for the study of the countries in question together with their customs, methods of business, national temperaments, etc.

"Some of our men have taken courses in advanced engineering or in business training from institutions that were available, and in a general way it is our policy to bear at least a portion of the expense of such courses if they are completed successfully. Generally the company is willing to assume 50 per cent of all the necessary fees.

Practically all of our men are graduates of technical schools and in addition have had experience in our testing department.

"The technical nature of our business and the fact that our representatives are too far away to call upon factory experts for aid, but must be able to discuss with customers all engineering details of the business, makes it almost essential that we employ men with technical training only. There have been a few exceptions, but in these cases the men have picked up the necessary information during many years work in our offices. These few men began as clerks and owe their advancement to their own exceptional characteristics. Probably they were high school graduates when they came to us. Without denying their merits, I think the general feeling is that four years spent in technical training would have made them even more valuable than they were or are, say at ages of from 30 onward.

"A man to go abroad must first of all be acquainted with our methods, policies and our products in detail. My own feeling is that in addition he should have if possible actual experience in selling and in merchandising methods and he ought to have a good idea of banking methods, corporation finance, accounting, budgeting and statistical methods. It is of course impossible to get all of this experience in the case of most men and it is to fill in the gaps that we hope that our course mentioned above will be of some value as well as in giving the men in the home office a more comprehensive interest in the work which they conduct."

Department of the Interior, Washington, D. C. Glen Levin Swiggett, Specialist in Commercial Education.

"In answer to query No. 3 of your questionnaire, I would state that I have found cooperation in the following cities: Boston, New York, Chicago, Seattle, Portland, Los Angeles, San Francisco, St. Louis, Cincinnati, New Orleans, Pittsburgh, Cleveland.

"In training for foreign trade it was the earlier practice, as you know, of our higher institutions to introduce a semester course of two or more hours on this subject of foreign commerce. In time as the subject became more clearly understood and the demand from business more pressing, the course in foreign trade developed into what might be called a major in this subject. This major would include markets and sales, banking and exchange,

ocean transportation, maritime law, marine insurance, document technique, commercial correspondence, etc. There has been little or no demand until the present that the several subjects offered be better coordinated in respect to sequence with some emphasis upon previous training. If I can make any special contribution at this writing upon the subject of this inquiry, I would state that in my judgment the time has come when we need a far greater measure of specialized training in fitting men to engage or enter upon foreign trade courses. This specialization will naturally lead to a greater degree of group treatment of the subjects considered most essential and vital for foreign trade preparation."

*College of William and Mary, Williamsburg, Va. R. L. Power,
Associate Professor.*

"New York University, Boston University, Harvard University and University of Washington at Seattle, I consider to be doing effective work in training students for our foreign commerce.

"Books I would recommend for foreign trade training are: 'Practical Exporting,' Hough; 'Exporting to South America,' Filsinger. Collateral: 'South America,' Koebel; 'Understanding South America,' Cooper; 'Business in South America,' Collieris; 'A. B. C. of Foreign Trade,' Henius; 'International Commerce,' Wolfe.

"National City Bank, Boston University (Havana Branch)—in experimental stage, General Motors Export Co., are training men for overseas trade. United Fruit and Standard Oil prefer men with School of Commerce training.

"Some vital subjects for a study course to fit men for foreign trade are: Language and customs of the people; document work; marketing; principals of foreign trade, etc.; I expect to follow fairly closely the scheme of courses of R. S. MacElwee, Director of the Bureau of Foreign and Domestic Commerce, Washington, D. C., which is outlined in his Bulletin, Miscellaneous Series, 97. Our classes here take practice trips to industrial centers and to the ports to see the shipping, unloading, customs procedure, etc. This is the first year of our foreign trade work. It has developed far ahead of our expectations."

Georgetown University, Washington, D. C. Edmund A. Walsh, Regent.

"The school has enjoyed remarkable success in this course of foreign service. Starting with seventy students the opening semester (February, 1919), we had two hundred and ninety (October, 1919), and at present we have three hundred and eighty after having turned away over three hundred applicants for lack of accommodations. Although this year witnesses the first graduation, many of our students have already become well located in foreign service.

"Due to the lack of suitable text books the school is having a number of our courses published in book form at the end of the academic year. Thus for next year we expect to have published a practical Chinese-English grammar by Dr. Chen, a Spanish course by Dr. Sherwell of the International High Commission, a course on International Relations by Dr. James Brown Scott, Secretary of the Carnegie Endowment for International Peace, a course on Consular Procedure by Mr. Frost, Foreign Trade Adviser, State Department, a course on Sales Practice by Dr. MacElwee, Director of the Bureau of Foreign and Domestic Commerce.

"Students are examined by means of frequent written and oral quizzes and semi-annual examinations. We invite your attention to the last paragraph on page 10 of Bulletin 9." (Bulletin 10, which gives complete announcement of classes for Second Semester of Academic Year, 1920-21, Georgetown University, can be secured by writing to: The Regent, Georgetown University of Foreign Service, Sixth and E Streets, N. W., Washington, D. C.—Georgetown is presenting a two years' course in foreign trade at present and out of 400 students, 300 are taking Spanish.)

General Motors Export Company, New York City. O. B. Mitcham, Manager, Personnel Department.

"Unfortunately, on account of the recent and rapid growth of our export trade, very few Americans, trained and experienced in the export field, are available for foreign service; therefore, the American manufacturer who wishes to expand his overseas forces and to develop his organization is obliged either to

take men trained in the domestic field and transplant them into unfamiliar surroundings and conditions abroad, or to give young men of the desired mental, moral and physical calibre a course of intensive training for overseas service.

"The General Motors Export Company has selected the latter alternative as the one most likely to provide men qualified to successfully uphold the best traditions of American business here and abroad. It has established and is now conducting the General Motors Export Company's Training School, which is designed to equip men to represent it in the various branches of its foreign activities after a thorough training in its classrooms, shops and offices.

"Due to the fact that a year is the minimum time required to teach even men of exceptional ability the rudiments of the export business and the merchandising in overseas territory of the numerous products (including motor cars, trucks, tractors, and lighting outfits) which this company, as the export division of the General Motors Corporation, markets, it is necessary that the men accepted for training possess most of the known essentials for success in the overseas business fields before entering the training school.

"Our company maintains a library to which are constantly being added such books on business, commercial geography, and foreign trade in general as recommend themselves to our favorable consideration.

"A daily News Annalist published within our office, and containing extracts on commerce in general taken from various newspapers and publications, domestic and foreign is also used in giving our men general and specific knowledge concerning our trade abroad.

"Since this company offers to certain selected employees full enrollment in the school, and to any employee the privilege of enrolling for such of the courses as will make him more valuable, it has not been felt necessary to recommend outside study.

"Although it might be safe to say that the best men usually come from the colleges of commerce, and graduate school of business administration, this company has found good material within its own ranks as well as elsewhere. Since the course has only

been established since April, 1920, sufficient time has not elapsed to make a definite statement which would serve as a guiding principle.

"It is felt that, other things being equal, a college graduate will forge ahead faster after he has assimilated the technical knowledge necessary to the understanding of the business.

"Naturally it is thought that the ideal means for fitting men to take responsible positions abroad is through the establishment of a training school operated by a company; but since many firms would not find so expensive an operation profitable, it is believed that sufficiently specialized courses can be had in some of the larger universities.

"This of course does not help firms which may be situated at a distance from these seats of learning. In such cases we believe that enrollment in recognized correspondence schools is helpful, but that it should be supplemented with weekly discussion periods, attended by executives of the company and backed up with the employees practical application to their own business."

*E. I. DuPont de Nemours Export Company, New York City.
W. C. Wilson, Manager, Office Service.*

"We have no particular school for training our foreign representatives, but the Domestic Company maintains at Wilmington a school for the education of salesmen. This course takes from three to four months and educates the employees as regards the manufacture and use of the various products of our company.

"After this course has been completed, a representative, if he is to be connected with the Export Company, is brought to our main office in New York and kept there from one to two months and is given an education in our methods of doing business through our various departments, such as the order department, advertising division, filing department, etc., depending upon whether he is to be a salesman, a sales representative, or an office man in one of our foreign offices.

"Before entering the service of our company it is necessary for an applicant to interview at least three of our representatives and also to pass a physical examination. If the interviews and physical examination are satisfactory the applicant is then placed

on the regular payroll and sent to the school for training, we continuing to pay his salary while he is in the period of preparation. Of course if he fails to pass the educational course his services are discontinued.

"So far as the value of a college training is concerned, I am not prepared to make any definite statement, as very few of our representatives are college men, and the few that are do not enjoy any better positions than those who have not had such advantages.

"Practically all of the employees of the Export Company in executive positions are old employees of the Domestic Company, having grown up with the company and been with it from ten to twenty years.

"Any new men that we have taken on have been chosen for position more because of their particular knowledge of the position in which we wished to place them rather than from any thought as to whether they had or had not a college education."

The Guaranty Trust Company, New York City. Mr. Walter Adriance, Assistant Secretary, Manager, Educational Division.

"We have no course of training designed particularly to train men for work in our foreign offices.

"We have a Foreign Exchange and Foreign Banking course in which about 280 employees are enrolled. Most of those taking the course are employed in our foreign department, although about one fourth of the total number consists of men and women from the other departments of the company.

"The aim of this course is to give employees of the foreign department particularly, and the employees of other departments, as well, a knowledge of the theory of foreign exchange and foreign banking, and with it a practical explanation of the functions of our own foreign department.

"While the course does not directly train men for foreign service it indirectly should increase the fitness of the employees of the foreign department for work in our branches abroad. The practice of this company is to select for service in its foreign offices men who have had experience in our foreign department

here. However, the greater proportion of employes in our foreign offices consists of natives.

"We have a library in the educational department for the general use of the students of all departments of the company. Part of this library consists of books on foreign exchange, foreign trade and acceptances.

"There are two other libraries in this institution: (1) The Guaranty Club library, which contains a few books on foreign exchange and foreign trade; (2) the reference library, which carries a very extensive number of foreign exchange and foreign trade books, and also receives newspapers, magazines, and other periodicals on all phases of foreign exchange and foreign commerce.

"All of these libraries are available to the use of employes at any time.

"The employes of the foreign department come from no particular class of men, except insofar as the general type of employes of banks, brokerage and business houses may be called a class. In some parts of the foreign department, especially in those dealing with foreign exchange, import and export training is more desirable.

"In recent years, however, the company has established an educational department which takes in about 40 to 50 college graduates each year, for the purpose of giving them a general training in all the departments of the company in order to fit them for positions of importance in whatever department they prove to be best fitted for after having completed a study of the company as a whole.

"Of the college men who have come into the educational department and who have completed the general training course, a number have already been sent to this company's offices in London, Paris, Brussels, Havre and Constantinople.

"In my opinion, as a general thing, the college man with a sufficient amount of training in the home office is of more value than the non-college man of experience in service abroad, because of the college man's broader viewpoint on history, geography and political economy of the various countries, because of his usually better knowledge of languages, and also because of his general

superiority in matters of contact with foreigners, both in a business way and socially.

"I should suggest as some of the most important matters of training for responsible trade positions abroad, the following:

(1) A thorough knowledge of the language of the foreign country in which the individual aims to work.

(2) A broad study of the geography, history and commercial laws of that country.

(3) A study of exporting and importing procedure both here and in the foreign country.

(4) A study of foreign exchange and the financing of imports and exports by banks, both American and foreign.

(5) An extensive reading of English, French and German methods of trade (selling and financing), in the foreign country.

(6) A thorough reading of publications of the Bureau of Foreign and Domestic Commerce and other American periodicals on exporting, trade opportunities, etc.

"We have found the following books and literature useful in connection with our courses in foreign exchange, foreign trade, etc: 'Foreign Exchange' by A. C. Whitaker; 'Foreign Exchange Explained' by F. Escher; 'Domestic and Foreign Exchange' by E. L. Stewart-Patterson; 'Modern Foreign Exchange' by V. Gonzales; 'Foreign Trade and Shipping' by J. A. de Haas; 'Foreign Credits,' Special Agents Series No. 63, by Wolfe, Bureau of Foreign and Domestic Commerce; H. Deutsch 'Arbitrage,' etc.

"During the period of the war the work of the educational department of the Guaranty Trust Company was carried on under difficulties natural to such a period of change. Within the last few months new plans have been made for the organization of this work, and the carrying out of a more comprehensive and thorough-going program than has hitherto been attempted.

"It has been realized for some time both by the Guaranty Trust Company and by other large financial and industrial concerns that for any business enterprise involving a personnel running into the hundreds of thousands, a well formulated educational program is one of the essentials of sound organization. The mere size of the enterprise makes necessary a considerable number

of separate departments, the work of each department being highly specialized. Efficient organization entails also, through the various departments, a considerable amount of work involving somewhat monotonous routine. The cases are necessarily very numerous in which a man's work does not of itself provide the means for the proper development of his abilities. This may be true even of the responsible heads of the departments and divisions, who, while admittedly experts in their particular fields, may nevertheless be lacking not only in a comprehension of the work of other departments, but in the broad grasp of business and public affairs, which is so essential for the man who is to hold a high position in the banking world.

"It is a conviction of the Guaranty Trust Company that every officer and every employe should be constantly growing, and that upon this growth in knowledge and power depend both the welfare of the individual and the whole success of the company. There is a plain need, then, that a man's daily work should be supplemented by some carefully planned course of training, in order that the value of his services may increase with the continued development of his powers. While every man is primarily responsible for his own development, there is much which can be accomplished by the organization of a systematic plan of training. The education department is therefore studying the educational needs of our whole personnel and will provide for them as far as possible.

It is the desire of the company to follow throughout its whole organization the plan of promotion from lower to higher positions. In the selection of officers, for example, though the appointment of men from outside the Guaranty Trust Company has not been uncommon, it has generally been for the reason that the men selected has had certain necessary qualifications which were not to be found within our ranks. It is the definite policy of the company, however, to develop and recruit its future officers as far as possible from within. As a means to this end the educational department has arranged for the selection from various parts of our organization of a group of men who will be given a special course of training in the work of all the important departments of the company and who will be given other facilities for broadening their knowledge of finance and business. This group

is to be made up of men who have been with the company for a period of years and who have shown by their loyalty to its interests, their whole-hearted devotion to their work, and the development of their powers which they have already achieved, that their value to the company is likely to increase with the continued development of their abilities. The Guaranty Trust Company, with its rapidly growing business and its affiliations with numerous subsidiary and related companies, is constantly in need of men with the necessary training, personality, and force of character for executive positions of responsibility and trust. It is confidently expected that the general training course which is being conducted by the educational department will provide a flow of men qualified for the exacting duties of positions of this kind.

"The men who take this course of training will spend a certain amount of time in each of the fundamental departments, learning its work partially by taking part in it, partially by systematic study and discussion. There will be considerable differences in the knowledge which these men have of the various departments of the company other than their own. The amount of time to be devoted to the special training will therefore vary. In some cases after a man has acquired a general knowledge of the work done by the company in New York, he may be sent for a period to one or more of our foreign offices. The end in view throughout will be to broaden his knowledge and his point of view, so that in addition to the intimate acquaintance which he has with one or more specialized departments, he will develop that broad grasp of affairs so much needed by the executive charged with large responsibility. The educational department is progressing very carefully to the choice of these men, for the reason that a wise selection will be of considerable importance both to the individual and to the company.

"Arrangements will be made in the various departments for the work of the men who are taking this general training. In all cases it will be the aim to acquaint the man to some extent with the work of a department, or division, before he enters it. In the bond department the men will be given a special course of instruction in investments somewhat similar to that which has been given to bond salesmen in the past.

"In taking on new employees it has been the practice of the

company to assign a man to a particular department where he stays for an indefinite period learning thoroughly the work of that one department, but having little opportunity to acquire a grasp of what the other departments are doing. To a certain extent it is planned to modify this procedure by giving new men, who already have some knowledge of banking, an opportunity to learn the work of a number of the more fundamental departments before being placed definitely in a particular one.

"In addition to the special course of training which has been described, the educational department will also make provision, much as has been done in the past, for courses in certain subjects related to the work of the company, such as Domestic Banking, Foreign Banking and Exchange, Credit and Investments, Business English and Languages. The department is also equipped to give advice and suggestions in regard to systematic courses of training offered by universities, commercial schools and other agencies.

"As the war has brought into the service of the company a much larger percentage of women than formerly, the educational department expects to make a somewhat special survey of their needs and make such special provision for meeting them as may seem necessary."

(Mr. Adriance, who is in charge of the educational work of the Guaranty Trust Company, was formerly professor of Economics and Banking at Princeton University. During the early part of the war he served as Director of the Bureau of Research of the War Trade Board. This was the official statistical organization of the board. It had a personnel of over 200 and was charged with the duty of making the statistical studies required by the board in the conduct of his work. In the spring of 1918, Mr. Adriance entered the army, serving as a major in the general staff until May, 1919.)

*Eastman Kodak Company, Rochester, N. Y. H. D. Haight,
Manager, Industrial Relations Department.*

"The greater part of our foreign business is handled through Kodak Limited, in England, and not direct from the United States. Men sent from this country to those branches which are managed direct from here fall into three general classes: manu-

facturing experts, managers and assistants for foreign sales branches, and foreign demonstrators.

"Production experts sent to our foreign manufacturing plants are invariably men with technical training, usually with a specialized knowledge of chemistry. All these men spend considerable time in our local plants before being assigned to posts abroad, the fundamental requirement being, of course, a thorough knowledge of photographic products and their uses. Their training is largely that given all local manufacturing experts.

"In the case of managers and assistants for overseas sales branches, and foreign demonstrators, a knowledge of our products and the manner of handling is of course necessary, but the technical knowledge of production is not expected. These men receive their training in the export division of our sales department. They become thoroughly familiar with methods of shipping and billing, with foreign correspondence, and the customs requirements of the country to which they are to go. They are also expected to secure a reasonable familiarity with the language and with the general nature and conditions of the country concerned.

"The company has at present a method whereby the tuition up to a certain point is paid for employees who satisfactorily complete courses in approved schools. At the present time this does not apply to those receiving private instruction.

"There is not a special class from which most of our men are selected, save in the case of technical experts, as noted above. Special consideration, however, is of course given to those already having qualifications which fit them for this work, such as a knowledge of foreign languages and customs, and a knowledge of photographic materials. It appears sometimes to be the case that college trained men adapt themselves more easily to the conditions of foreign trade, and may more quickly secure a proper understanding of foreign conditions and methods of business.

"Some of the most necessary qualifications for work of this kind seem to be a knowledge of the product and the general policy of the company, and as thorough an understanding as possible of the language and mode of thought of the country in which business is to be carried on."

Boston University, Boston, Mass. Everett W. Lord, Dean, The College of Business Administration.

"The courses in Foreign Trade training and in kindred subjects given at Boston University occupy a prominent place in the curriculum. Special attention has been given to Latin-American relations and to the Spanish language.

"In the past few years the 'Laboratory plan' of combining class-room instruction with practical experience in shop or counting-house has proved to be the most satisfactory form of industrial or commercial education. In the College of Business Administration of Boston University, for example, the four-year course leading to the degree of Bachelor of Business Administration provides for one full year of supervised employment as an integral part of the course of study.

"The university now announces a laboratory program for its Latin-American trade courses, through the establishment of a branch college in Havana, Cuba, where students regularly registered in the college at Boston may take a part of their college course, thus having the opportunity to learn Spanish in a Spanish country, and to become personally acquainted with Spanish-American life and customers.

"The Havana Branch is supported jointly by Boston University and a local board of guarantors, representing the principal business interests in Cuba. The instructors are members of the regular faculty of Boston University. The courses parallel those given in Boston University except that they are, in general, conducted in Spanish.

"American students will not be admitted directly to the Havana Branch, but must spend at least one year in Boston, where they may take intensive courses in Spanish and in other subjects intended as special preparation for the work in Cuba.

"Cuban and other Spanish speaking students may, after a similar preparatory year in Havana, transfer to Boston.

"Without intending to reflect upon other institutions, I know of but one doing effective work of this nature: the College of Business Administration of Boston University.

"Books that we have found helpful in connection with Foreign Trade training are: 'Kidd on Foreign Trade; Ford's 'Foreign

Trade of the United States;' Hough's 'Practical Exporting;' Johnson and Huebner's 'Principles of Ocean Transportation;' Escher's 'Principles of Foreign Exchange;' Marshall's 'Industry and Trade;' Savay's 'Principles of Foreign Trade;' 'Selling in Foreign Markets,' Bureau of Foreign and Domestic Commerce; de Haas' 'Foreign Trade and Shipping;' Shugrue's 'Problems in Foreign Exchange.'

"An arrangement, similar to the Havana branch, by which students may spend two years or more of their course in China is now being completed."

Armour and Company, Chicago, Ill. A. O. Milliken.

"The chief agency employed by us for training employes for work in foreign countries is work in the foreign department. Usually men are selected for this work who have had considerable and varied experience in our organization and have a general working knowledge of the business together with some idea of policy matters, as for instance in the case of the writer at present in charge of the foreign accounting department, which includes foreign banking, foreign exchange, marine insurance and shipping documents.

"After twelve years experience in various capacities in the domestic end of the business, he was sent to Europe where he spent the largest part of three years in the United Kingdom, France, Italy, Scandinavia and Germany to be returned to Chicago to the foreign accounting department where after about a year's time he was placed in charge of the above. In other cases where the men were being trained for the foreign sales department they were sent to South America and later to various European markets and afterwards brought into Chicago and attached to the foreign sales.

"It might be interesting to note here a few remarks with regard to the policy adopted by some of the larger firms abroad and notably British and European firms. Young men and in some cases young women who show an aptitude for trade and are good linguists are encouraged to make themselves proficient in the language of the countries they intend to work in; are then taken into the offices, warehouses and plants of the house and given a general training of their whole business from the ground up,

specializing in the work they intend to handle abroad. It is required that they study the history of the country they intend locating in, the political and social conditions as they exist and to become generally conversant with affairs in addition to the trade requirements, and when they are fully equipped they are sent out.

"The most helpful information that we have been able to obtain for the purpose of keeping the foreign department informed regarding trade abroad is through the medium of weekly letters from our agents and managers at the foreign houses. These letters come in regularly and gives a general view of the situation politically, economically and in fact from every angle. In all these various countries are published one or more trade journals and a careful study of these give one a very good general knowledge concerning trade abroad. There are also several publications in this country that are of interest to those who feel interested enough to make a study of these problems.

"The company does not meet any expenses for employes studying outside to better prepare themselves for foreign service. It is my understanding that in the European countries some of the firms do. We have, however, in many cases where we found men connected with foreign branch houses who were engaged locally and who show a thorough interest in and an aptitude for the work they have in hand, brought these men over to America and allowed them to spend considerable time going through the various plants and packing houses, so obtaining a practical education making them better posted to deal with their work, which has proven very beneficial.

"In forming new organizations in foreign countries we have always found that with the proper nucleus for an organization based on trained employes from our service elsewhere, we have met with better success by employing a staff from people of the country where the business is being established. There are some exceptions, but this is more the rule than the exception.

"Our preference would be to use men in the more important positions in the foreign service who have had considerable experience in the firm's business rather than perhaps the better educated college men who lack experience, but the combination is most desirable.

There are several essentials necessary for fitting a man for the responsible trade positions abroad, one in particular being, that the average American abroad for a time at least is very narrow and provincial. Another is, that they are, as a rule, poor linguists. Another very important requisite is, that a man in a foreign country representing an American house should adapt himself to the local conditions and thus avoid the so commonly prevalent custom (of Americans) of comparing local conditions with those at home and view things at times from the other fellow's perspective. He must become a public spirited man and show an interest in all things going on around him and should speak well the language of the country."

University of Pennsylvania, Philadelphia, Pa. (Wharton School of Finance and Commerce.) Grover G. Huebner, Professor of Transportation and Commerce.

"The Wharton School of Finance and Commerce offers a four year course of study to students registering for "Preparation for Foreign Trade Service." During the first year the four year students' courses are the same as those prescribed for all first year students in the Wharton School. They include business law; elementary accounting; general economics; resources and industries of the United States; government; and English. Specialization in foreign trade begins during the second year and increases in extent throughout the remainder of the four year period.

"Mature students not expecting a degree, and unable to attend for a period of four years, may register as special students and complete the courses dealing directly with foreign trade.

"The reading material for the class in foreign trade methods consists of especially prepared mimeographed assignments. Although a number of excellent books on foreign trade have been published, none has quite answered the purpose as a text book on foreign trade methods. Books that have been found useful include: Hough, 'Practical Exporting,' 'Exporting to the World,' Preciado; Business Training Corporation, Foreign Trade Course; Bureau of Foreign and Domestic Commerce, 'Selling in Foreign Markets,' and also 'Paper Work in Export Trade;' A. J. Wolfe, 'Theory and Practice of International Commerce.' Many of the

bulletins of the Bureau of Foreign and Domestic Commerce dealing with particular commodities and markets have been found useful.

"Books used in courses dealing directly with foreign trade are: E. R. Johnson and G. G. Huebner, 'Principles of Ocean Transportation;' and G. G. Huebner, 'Ocean Steamship Traffic Management.'

"Text book on Marine Insurance: S. S. Huebner, 'Marine Insurance.'

"Text book on History of Commerce: E. R. Johnson and Collaborators, 'History of Domestic and Foreign Commerce of the United States.'

"Before graduation from the Wharton School each student is required to complete a piece of research work, and business houses are cooperating to the extent of supplying them with available data, answering specific inquiries orally or in writing, granting extensive interviews and permitting students to familiarize themselves with their methods and organization."

"Those subjects which we feel have the most vital bearing on foreign trade are: foreign trade methods; exporting problems in selected foreign markets; senior research; ocean shipping; commercial geography; courses dealing with the principal foreign markets; consular service; marine insurance; money and credit; foreign languages."

Harvard University, (Graduate School of Business Administration) Cambridge, Mass. G. B. Roorbach, Professor of Foreign Trade.

"Our students are all college graduates to begin with. It is our aim, as far as it is practicable, to give the men as classroom work actual business problems that we have collected. This work in problems is supplemented, from time to time, by business men who meet the class, discuss a business problem with them, and leave with the class a problem for solution. Later, these men meet with the members of the class and discuss their solutions of those problems. In addition to this problem work, our men are required during the four months of the summer vacation to spend in doing distinctly foreign trade work either in a business house or research work.

"Our course is two years in length. During that period we are more anxious to give men a broad but practical foundation than we are to give them the minute technical details of carrying on foreign trade transactions. Nevertheless, we intend to familiarize them more with the methods and to acquaint them to a considerable degree with the actual technical details."

United States Steel Corporation, New York City. C. L. Close, Manager, Bureau of Safety, Sanitation and Welfare.

"Our United States Steel Products Company have had in force for a year or more, a foreign service class for training ambitious and promising young men who are in the employ of the company, for foreign offices. There are always a number of men undertaking this course for various lengths of time as circumstances or immediate necessity permit, by which they progress through the various sales, shipping and financial divisions of the New York office.

"This training, in many instances, is supplemented by an especially routed trip through some of our mills where goods are manufactured.

"In this course, they have included men whom they have employed because of their special qualifications in knowledge of foreign languages, or in technical or engineering training—for posts where this was imperative, and among them have been numerous college graduates; but such college training is not necessary and they have always given preference to their own men of good education, appearance and address, who have shown proper application and promise as well as to those men already employed in our subsidiary companies who have had mill training or experience in selling mill products."

Robert H. Ingersoll & Brother, New York City. O. M. Goge.

"We have never been able to find either a school or reference books that would be of assistance to our foreign representatives. We have, therefore, attempted to do the next best thing by getting material of the right sort, trained in the colleges, and then putting the men through a practical course of training in our offices and later in a foreign territory.

"We employ language study, when necessary, in training employes for work in foreign countries and have company courses in selling or office management, etc., depending on the work student is scheduled to do.

"Most books of export theory and practice do not fit in with our plans and are apt to mislead the student. We, therefore, confine our future representatives' reading to our house literature.

"We have no outside studies provided except language. Our men are paid while in training.

"We recruit our force of employes largely from college graduates having at least a rudimentary knowledge of language to be used in future work and with other necessary qualifications.

"We find that the college man has infinitely more value for foreign service in comparison to men not having a college training but who have had experience in the firm's business.

"Assuming the candidate has the necessary natural qualifications, we believe the most vital means for fitting men to take responsible trade positions abroad are a careful grounding in the principles, policies and methods of our business, backed by some actual experience here. If possible, we recommend some practical experience in a nearby "export" territory under the supervision and watched by a competent member of our organization."

L. E. Waterman Company, New York City. F. D. Waterman, Treasurer.

"Originally we sent from here, as far as possible, Americans who wanted to enter the foreign branch of our trade. Our universal difficulty was keeping these men in the foreign country after they had arrived. Therefore, one by one they have returned to good old New York or the U. S. A., and our policy now is to bring over young men from the countries in which they are to work and educate them here. We have been quite successful in this, particularly in Europe. In South America not so successful, but having been rather slow in pushing the South American business for the last two years our policy is somewhat unsettled, but that is what we propose to do when we are able to enter this field afresh."

Westinghouse Electric & Manufacturing Company, East Pittsburgh, Pa. C. S. Coler, Manager, Educational Department.

"The educational and training program as conducted by the Westinghouse Electric & Manufacturing Company is divided broadly into two parts:

First. Deals with the preparation of the individual for the work which he is hired to perform.

Second. Is intended to prepare the individual for a position of increased responsibility in the organization.

"During the past approximately 3,500 employees have received instruction through these programs. This number does not take into consideration those who have been benefited by miscellaneous lectures or who have received instruction for their work altogether on the job.

"A number of technically trained men are selected each year who will ultimately take up positions in the commercial, engineering, manufacturing and erecting departments. These men are selected by personal interview and are given training in various phases of the company's work as a preparation for their ultimate work in the organization.

"Individual schedules are made out for each man, in line with his interests, and the work available. In general these schedules comprise a period of production work in the factory where the student becomes acquainted with manufacturing processes, the various products which we manufacture, and with our manufacturing personnel. During this period of practical experience the young engineer spends two hours a week in conference with engineers and salesmen who handle the apparatus on which they are working in the factory. Within two months each student is expected to more or less definitely select the line of work in the organization which he will later on take up. From this time on, the course is intended to lay a broad foundation for this work by acquainting the student with the various kinds of work which are related to his future position in the organization. Some of the men spend a portion of their time in our branch plants or subsidiary companies, others receive practically all of their training at our main plant.

"The training in general covers a period of approximately one year, the latter portion being given up to intensive training for the work to be undertaken, the student being given from one to three months time to become acquainted with special information which he will need to know in handling his work. An outline covering a typical program for one of our commercial schools is attached.

"After completing the training period students take up their regular work in the organization reporting directly to the executives in charge of the various divisions.

"During this period of preparation these men receive a salary which is intended to adequately cover living costs.

"A number of high school graduates are selected each year to take up work of a semi-technical nature in the organization. These men are selected by test and are given some practical experience in production and clerical work to acquaint them broadly with the company's system and organization. They then take up regular work in the organization with an opportunity to follow up further their technical training by means of evening schools.

"Other courses of a similar nature are conducted for those who have had to drop out of college before completing their work and for special students who are sent in to be trained for work with our customers, either in this country or abroad.

"Optional courses are conducted during the winter months at the Westinghouse Club in Wilkinsburg. These courses afford an opportunity for the students to study various lines of work which supplement the instruction which they receive at the factory in line with their desires.

"Optional courses in engineering are also available to any employe of the Westinghouse Company, through the Westinghouse Technical Night School, which operates in the local Public School buildings. Through these courses it is possible for any individual who has the proper ambition and qualifications to ultimately prepare himself for responsible work in the organization.

"Approximately 1,300 different students have been enrolled in this school during the present year.

"In addition to the four year Engineering course, the school

conducts a preparatory course for those who have not had eight grades of grammar school, a course in English for foreign born men for those who wish to learn our language and miscellaneous courses for women as a preparation for clerical, stenographic or other work carried on by women in modern office practice.

"The school is supported by the students, the local public school districts and the industry. Instruction is carried on by a staff of 75 men and women the most of whom are selected from the industry and instructed in the methods of teaching.

"The majority of the graduates of this school are successfully engaged in commercial, engineering or executive work.

"Four year courses are conducted for grammar school graduates with a view of preparing them for trades work. The program consists of practical experience in the factory on various operations and processes, supplemented by four hours per week in the Trades Apprentice school. Those who complete this training are well qualified to follow the work of the trade taken, such as pattern making, foundry practice, machine shop practice, tool making, and design, or electrical work.

"These men are also available for executive positions requiring a broad understanding of manufacturing operations.

"A two year course is conducted to prepare high school graduates for positions in our various drafting rooms. A preliminary period of intensive instruction is given the men to prepare them for tracing work. They are then placed in a position in the drafting room and given six hours per week instruction in the educational department.

"After approximately a year in the drafting room these men are transferred to the factory where they receive practical experience, becoming acquainted with processes, materials, etc., used in carrying out their designs.

"In addition to these major programs a number of other courses are conducted to suit temporary or local needs. Among these might be mentioned noon lectures, for office employes, held in the educational department during the winter months; evening courses in Spanish; factory classes in English for foreign born men; stenographic training and part time training for production, time and cost clerks.

"The Westinghouse Company as a memorial to those employes who entered the World War, offers each year four scholarships in technical schools, to employes or sons of employes.

"A large number of our employes are enrolled in outside educational institutions such as Carnegie Institute of Technology, University of Pittsburgh, Duquesne University, Y. M. C. A., Carnegie Library, Alexander Hamilton Institute, etc.

"The problem of 'Training for Foreign Trade' naturally divides itself into three parts:

(1) Knowledge of the organization, products, policies, etc., of the concern represented.

(2) Knowledge of the business conditions, people, language and customs existing in the foreign field.

(3) A knowledge of exchange, shipping, inter-government relations, etc., necessary in order to conduct the business.

"Our program has dealt primarily with the first of these three relations. The majority of our salesmen are technical graduates. Their industrial training has consisted of some practical experience on the various products which we manufacture, weekly conferences with salesmen on the problems connected with each of our products, and a final one month's sales school which aims to coordinate the experience and to inspire the young engineer with the proper respect for the work and interest in it."

The National City Bank, New York City. W. B. Williams, Personnel Director.

"The work of The National City Bank of New York in specifically training men for service in its foreign branches began in 1915. Unusual advances had been made in establishing connections of the bank abroad, and still greater advances were planned. The need was distinctly felt for men of good education who had a general training in foreign banking and who would, under reasonable direction, give promise of development into capable foreign executives. It was decided to select a limited number of men from American colleges and universities, and with this in mind a few of the more representative educational institutions of the East were asked to cooperate in the selection of suitable candidates. The result of the plan was highly successful—so

much so that it was continued each subsequent year, notwithstanding the interruption of the war. Details of the plan were changed as experience showed a more practicable method, but in general the features of the training class have remained the same. From a small nucleus of twenty-three men in 1915, the class has grown until at times there have been as many as seventy members. Last year the increasing interest of American men in foreign commerce, coupled with the knowledge that a training course for foreign service was offered by this institution, resulted in more than one hundred schools and colleges making nominations of over three hundred college students for entrance into the class, in addition to a large number of applications which were received at random.

"The college students are brought to the bank for the two months' summer vacation, during which time they are rotated, according to a definite schedule, through a number of the more representative departments of the bank. They return to college in September and come back to the bank the following summer. Upon graduation from college, they enter the bank as permanent employes and are then placed in the department for which they have shown the greatest aptitude, and where their services are most needed. Thus, a man wholly inexperienced in banking is given first a general background, and then an opportunity to specialize in the line for which he is best fitted—credits, collections, auditing, etc.

"Supplementing the practical work in the departments is a schedule of text book work and lectures under the direction of our educational department. Modern languages, commercial geography, elementary banking, foreign exchange, credits, and similar subjects are touched upon. In this connection we have used the following books:

"'Foreign Exchange Explained,' by Franklin Escher; 'Foreign Exchange,' by A. C. Whitaker; 'The Meaning of Money,' by Hartley Withers; 'Practical Exporting,' by B. Olney Hough; 'Elementary Course in Banking Practice' of the Benjamin Franklin Institute; 'The Practical Work of a Bank,' by W. E. Kniffin.

"During the period of training the men are paid a salary which will enable them to live respectably in the city, and upon assign-

ment to foreign service are given an advance for clothing allowance to help them prepare for life abroad. A club house, maintained in conjunction with the activities of The City Bank Club, offers accommodations for members of the training class at a reasonable figure, in a convenient location, and in a congenial atmosphere. In addition, the members of the class are urged to take such outside educational work as will complement their preparation in the bank. The expense of such courses, if approved before registration by our educational department, is refunded to the student to the extent of fifty per cent.

"The original intention of the training plan was to use only men of college education, and, with few exceptions, this plan has been followed carefully. With the cooperation of the college authorities, the names of two or three representative men from each institution are presented to us and from these nominations are selected the men whom we can accept for training. Theoretically, of course, the college men should have the advantage over the man who has not had a college training. It is on this assumption that our organization of the College Training Class is based. This does not mean in any sense that only college men succeed in the foreign field. On the other hand, a large number of representative men from within the organization of the bank, who have not had college training, have been sent into our branches and have given most satisfactory accounts of themselves. Usually, however, they are men who have been with the bank for some little time and have had the advantage of experience which the college man has not had. Having set the standard for a member of the class as graduation from an American college, we have observed this condition more as a matter of uniformity than because we have found greater success and satisfaction from this class of students. In preparing men to take places of responsibility abroad, we have found that the only practicable way is to put a man on the same kind of a job in the home office that he is expected to fill or supervise abroad, and to increase his capacity by letting him solve here, under capable supervision, the same kind of problems that he will be called on to solve later. A well trained mind, good address, and a forceful and pleasing personality are essential to his success. These attributes, however, are more the result of a man's own application and endeavor for improvement

than the means which are placed within his reach by way of better fitting him for responsibility."

Packard Motor Car Company, Detroit, Mich. F. L. Jandron, Assistant General Manager.

"We have found it difficult to secure suitable travelling representatives for foreign work. Considerable experience in our industry, and particularly a wide familiarity with our own products and methods are essential. And we have not found that anything can take the place of this experience, not even a college training, as much as we value that.

"I am of the opinion that actual experience abroad, following thorough American training in business practice, with such additional technical or special knowledge as may be requisite, will be found the most satisfactory means 'for fitting men to take responsible trade positions abroad.'"

The Texas Company, New York City. C. E. Schauffler.

"In the matter of training our employes for work in foreign countries we have worked out our own course, consisting of theoretical instruction and practical application. We have found that books help some, but we rely chiefly on training the men after they arrive in a foreign country in the spirit of that country, in our methods, etc.

"Due to his larger training we prefer the college man—if he is the right man.

"A man must have a clearly defined conception of his future career governed by common sense. He should have a willingness to begin with small things and minding his own business until progressively his opportunity has come. He cannot be 'fitted' over night. Determination will always tell the tale.

"The firm must choose the right man, or unhesitatingly eliminate the wrong one. It is important for the firm to make the employe feel that he is wanted, to give him a training through books and practice, and, if he deserves it, to let him feel that he is trusted."

Burroughs Adding Machine Company, Detroit, Mich. R. H. McKay, Foreign Department.

"Our organization is divided into two units, viz., sales and service. We have, in addition to our various subsidiary com-

panies abroad, a great number of sales agents and dealers situated in all parts of the world. Our subsidiary companies are usually managed by men who have seen years of active service in the domestic organization and who are in our judgment peculiarly fitted to apply to the countries which their operations cover the methods in use here in the United States.

"Quite often we have calls from our different dealers to supply them with trained Burroughs salesmen as well as mechanical men. For some time we endeavored to operate a sales school here at the home office to which our different dealers could send their salesmen for more advanced instruction. This has been tried for a number of years and it was finally found that results were not commensurate with the cost and this policy has therefore been discontinued.

"It is very difficult indeed to endeavor to train salesmen for work in the field unless he has already been in the marketing end of our business and knows salesmanship as well as the different policies of the Burroughs Company. The only exceptions we make to this rule of accepting men for sales training at the present time is in giving them more advanced information regarding our newer models of machines.

"On account of the service which we endeavor to render our customers in all parts of the world, we maintain a mechanical school here at the factory which is open to members of our different foreign organizations which are already actively engaged in Burroughs work. In the event a foreign agent cares to send one or more men to the factory for mechanical training, he pays their transportation to Detroit and return, and during the course of training which takes from three to six months, we pay these students a living expense of \$25.00 a week.

"There is no particular class of men from which we recruit our people who are to be sent to different agencies abroad for sales work. We have a set policy that we will send abroad only men chosen from our domestic organization who have made good records and have had a number of years' experience in the marketing of Burroughs machines here in the United States. Our organization is so large (at the present time consisting of approximately 2,000 salesmen) that there is hardly a nationality which is not represented within its ranks. It is our conclusion that these

men prove a great deal more successful than those, regardless of whether they have had college training, who are not in possession of experience in selling Burroughs machines here in the States.

"As far as our particular business is concerned, will say that we consider the most likely timber for field or sales work abroad to be men who have proven successful in this country. Human nature is the same the world over. People in China or South Africa can be sold Burroughs machines if the proper psychological contact can be secured. Even the typical American salesman, filled with pep and ego, can prove successful in other countries if he qualifies his work, studies the people, and in fact if "when in Rome he does as the Romans do." It has been my good fortune to spend three years in the Far East for this company. My experience previous to going to China, Japan and the Philippines, was gleaned from years of work and study in the domestic organization. I found that to sell the Chinese, different sales talks were of course necessary, but by close application and study of their needs, peculiarities, and in fact, their entire life, it was simply a matter of human nature after all, and that in order to be successful in selling in those countries one had only to reach the proper contact."

University of Virginia, University, Va. Professor James C. Bardin, Department of Romanic Languages.

"My experience in training men for foreign trade has been confined to preparing them for service in Latin-America. Our resources here have not been great enough to permit us to take in other fields.

"The principal upon which I have based my work is, that men who are to go to Latin-American countries should, first of all, possess such temperament, or personality as will enable them to get along with the Latin-Americans. In my judgment, a man's ultimate success will depend more upon this factor than anything else in this field.

"A thorough speaking knowledge of Spanish or Portuguese is essential, with French, if possible. Most of the men I have been able to send out have spoken both languages—that is Spanish and French or Portuguese and French.

"Such men should have a thorough knowledge of geography, social conditions, and general history of the region. In addition to these, I try to induce them to study the literature and current political conditions as well.

"These men should have a thorough training in Latin-American business methods, trade routes, transportation, packing, and the like.

"When the four essentials enumerated are based upon a good general education, in which the theory of economics, and courses on money and banking, foreign exchange, and the like, are included, the men who complete the work as suggested are ready to start in.

"It has always been my aim to give my students such knowledge of the conditions, the peculiarities of business as it is conducted in Latin-America, that they will be able rapidly to work up to executive positions and take their places among the commercial diplomats that we need so badly.

"In giving this training, I have so arranged my courses in Spanish as to give my students a very considerable amount of information about Latin-America while teaching them to speak the language. And I also give a general course on Latin-America, which includes detailed geography, history, social conditions, political conditions, and trade relations, both internal and external.

"It will doubtless be of interest to you to know that your own book, 'Understanding South America,' is one of my stand-bys, and is constantly used as a reference work in my course on Latin-America. Enoch's 'Republics of South and Central America,' Sweet's 'History of Latin-America,' Aughinbaugh's 'Selling Latin-America,' Pepper's 'American Foreign Trade,' and the various standard works on separate countries are also used.

"During the past few years, I have consistently adhered to the practice of discouraging all students who apply to me for training for the Latin-American field unless I am convinced that they have the temperament and personality that will enable them to live in harmony with the Latin-Americans. The result is that about two out of every ten students thus apply "pass" my inspection and tests. I believe that this is the only fair way to approach the problem, and I believe that my method is justified by the results. Every man I have recommended so far has made good.

"As I suggested, our resources here do not yet allow us to do all we should like to do. Like most state institutions, we lack funds, and cannot give all the courses that should be given. We hope, however, in the near future, to be able to expand our courses, especially in geography, foreign trade methods, and international exchange. We shall, in all probability, continue to put most stress on preparing men for the Latin-American field—which is, of course, one of the most vital as well as most difficult of all."

Syracuse University, Syracuse, New York. Dean John Herman Wharton, College of Business Administration.

"Some of the larger colleges are doing effective work in training students for foreign commerce, offering courses dealing not only with the broader aspects of foreign trade and commercial policy, but with the essentials of practical exporting from the point of view of the American manufacturer desirous of extending his foreign markets. A few Y. M. C. A. classes in foreign trade are also doing excellent work.

"Books we have found helpful in foreign trade training are: Hough, 'Practical Exporting;' Savay, 'Principles of Foreign Trade;' Ford, 'The Foreign Trade of the United States;' 'Selling in Foreign Markets,' Bulletin No. 81, Miscellaneous Series, Bureau of Foreign and Domestic Commerce.

"Particular schools where the instruction in training men for overseas trade is cooperating with business houses engaged in foreign commerce are Boston University, New York University, Columbia University, and Tulane University at New Orleans. Such cooperation is also being furthered at the University of Chicago and in the College of Business Administration at Syracuse University.

"We believe some of the most vital subjects in training for foreign trade are: Commercial and industrial geography, marketing (including advertising and salesmanship), the principles of business organization and administration, the commercial policies of the various nations, special attention to tariffs, commercial treaties, and shipping policies, and political science, dealing especially with the diplomatic and consular service.

"In our foreign trade at Syracuse University, we are emphasizing four rather distinct and yet necessarily correlated features:

"I. A course in governmental, commercial policies with special reference to relation of those policies to actual importing and exporting: The tariffs, treaties, systems of public trade promotion, etc.—in short, the entire environment that the government builds up around the trade of its people. This is followed by a consideration of practical exporting and importing, dealing in detail with the four grand divisions of such trade:

(a) The study of foreign markets, the purchasing power, demands, and trading customs of the people, the strength, resources and methods of foreign competitors in those markets.

(b) The suitable means of reaching various markets; through direct selling, commission houses, combination agents, etc.

(c) The means of trade development; the use of advertising, correspondence, traveling salesmen, etc.

(d) The technical elements involved in handling export orders; financing, insurance, and other documentary work.

"II. Following the rather broad course just outlined, the student specializes as thoroughly as time will permit on a particular phase of foreign trade, dealing with the marketing of a special product in a limited trade area.

"III. An attempt is made to secure the best available information on such subjects mentioned above from local businesses selling abroad.

"IV. A final step is to be the encouragement of students to undertake work during the summer with the export departments of various businesses as a proper supplement to such training as we are attempting here."

The National Cash Register Company, Dayton, Ohio. C. E. Steffey, General Sales Manager.

"We have our own branch offices or agencies in most foreign countries. Our men, therefore, are trained locally in most instances. In recent years we have had very few men coming to the factory for training. Instead, we have field instructors, who are in constant touch with the factory, visiting the agencies and help-

ing local agents to train their men. Very often, when a new man employed by one of our agents, shows that he has the qualifications of a good salesman, he is sent to one of our branch offices for the purpose of spending some time in the field with our experienced men. In this way his natural selling ability is developed in actual practice, and he receives the benefit of the experience of the older man.

"We hold frequent schools for salesmen. This is done, not only in our domestic field, but also in our foreign field. For this purpose we have prepared a manual for salesmen, which is revised from time to time. This has the principles which have proved to be successful in our business. We also have outlined in a pamphlet the fundamentals to be followed in employing and training salesmen. As a complement to this we have a pamphlet outlining a course of study for new salesmen, and another one outlining programs for conventions of older salesmen.

"We use no special book or books as reference. Our manual is made up of ideas gathered from all sources, but principally from the experience of our most successful salesmen. We naturally recommend that our men read good selling literature and keep abreast of the times.

"The matter of remuneration during the period of training depends upon the nature of the man's position. For instance, if we take a man from our office force and put him through a course of salesmanship study, his salary as an office man continues during the period. On the other hand, if the man to receive training comes from the outside, we test his interest in our proposition by making him sacrifice something. Usually he is paid no salary, other than to cover his living expenses while attending the course. In this way the student feels that he is losing what he might have otherwise saved in his former position. This fact makes him feel his responsibility in his new undertaking.

"The above is also true of the men who are from time to time sent from the foreign field to our factory to take a regular repair course. Such men are paid a salary sufficient to keep them comfortably located.

"When a man is going from the factory to the foreign field, either as a salesman or as a manager or assistant manager, he is

given the opportunity to visit two or three of the principal cities in the United States where we have company offices. This is done for the purpose of giving the man the benefit of the education which comes from traveling, and also to give him the opportunity of personally seeing how our most successful offices are actually conducted. His salary and traveling expenses while on these educational trips are paid by the company.

"Besides the salesmen and employes who come to our factory or to our foreign branch offices for training, we frequently have agents or their salesmen and employes who come to our factory or branch offices merely for a visit. These visits may be for one or two weeks, or merely for two or three days. In such instances, of course, they do not receive any special training, and naturally do not remain with us long enough to be placed on the company's payroll. They, therefore, receive no remuneration, but the company always pays their hotel expenses while in Dayton, or at the city where the company office may be located.

"We do not recruit our salesmen from any particular class of men. Specialty salesmen, however, are usually the men who have the qualifications necessary for our business. Men who have been in business for themselves, and especially clerks in retail stores, also offer good material for our business. Another good field for recruiting salesmen is found by us in the men who have been in our factory or offices for some time, as they know our business and are well acquainted with the company's ideas and policies.

"The man with a college education and the man with a high school education have the same chances for success in our business. A thorough knowledge of the business, gained in practice, and knowledge of the language of the country where the man is to be located, is the best education he can have. There is no reason why a man without a college education cannot be well read, polished and up to date. Without these qualifications he is not fit for foreign work. It is not so much a man's theoretical or school education, as his actual experience and knowledge of business, that counts.

"In fitting men to take responsible positions in the foreign field, we have always borne in mind the following points:

1. Knowledge of the language.

2. Actual work in the foreign department of our factory, to familiarize the man with foreign business methods, correspondence, literature, newspapers and the like.

3. Study of the article from a mechanical standpoint at factory. Whether this study is to be elementary or thorough, depends on the nature of the position. A salesman does not require as much mechanical knowledge as a repairman.

4. Actual practice in the foreign field in company of local experienced and successful salesmen of our branches. This is to familiarize the new man with local business methods, prices and terms. All men receive a course in selling instruction before they leave the factory."

Amos Tuck School of Administration and Finance, Dartmouth College, Hanover, N. H. W. R. Gray, Dean.

"Since the foundation of the Amos Tuck School in 1900 we have been greatly interested in developing adequate instruction as preparation for foreign trade and banking. While no very large number of our students have entered these fields, our records show that nearly every year one or two men have shaped their courses with this in view. As a result, the school is represented by its graduates in countries all over the world. The larger number of men are engaged in international banking, several of them with the International Banking Corporation and several other men are in foreign countries as representatives of export and import organizations. Almost, without exception, all of these men appear to have given excellent accounts of themselves.

"Students enter the school on the basis of a college degree, or under certain conditions, after having completed at least three years of college work. Our two-year graduate course is concerned exclusively with business administration and leads to the degree of Master of Commercial Science.

"For men planning to enter foreign trade, it is our belief that the soundest training which they can receive should include the broadest possible foundation in essential branches of business administration. In the first year, for example, the courses are

all prescribed. In the second year, certain courses are prescribed, but a man is permitted to elect those courses most suited as training for his specialty. A man preparing for foreign trade would take, in addition to the prescribed courses, courses in foreign trade, sales and advertising management, investment, foreign exchange and a foreign language. He would also be required to present a thesis representing intensive investigation of some practical problem in foreign trade. We place a great deal of emphasis on the thesis and intend that it shall be fully as valuable a part of a man's training as any other work which he does.

"Since the war we have been studying the problem of extending our training for foreign trade, and we hope next year to be able to expand the courses now offered so that men interested in this field may receive more intensive training, especially in the latter part of the second year, than has previously been available. In accordance with our policy, however, it would be our purpose not to encourage too much specialization. Our experience and the opinions of our graduates confirm us in the belief that breadth and thoroughness of instruction in the several fundamental branches of business administration are likely in the long run to yield more substantial results than a more narrowly specialized training. We believe, for example, that a young man may acquire in actual experience a knowledge of technique and detailed procedure much more quickly and effectively than any school can teach it to him. On the other hand, we believe that if a school, such as this, can give him a sound knowledge of fundamental principles of the main branches of business administration, including his field of specialization, he can enter upon his practical experience well equipped for rapid progress to positions of responsibility.

"With reference to the materials of instruction in foreign trade, I may say that we intend to make use of all available publications, including text-books, periodicals, trade and government periodicals and reports. As the work has developed, we have tended to use text-books less and to employ the problem and report method more. Our experience leads us to believe that we should go even farther in this direction."

New York University, School of Commerce, Accounts and Finance, New York City.

"Adequate teaching material is difficult to find in foreign trade courses. For several years a single book, such as Mr. Hough's 'Practical Exporting,' comprehended the subject-matter for a course. With the introduction of several courses and the dividing of the subject, the few pages of Mr. Hough's were not adequate. The Bureau of Commerce and the Federal Board of Vocational Education have gotten out some material, part of which is very helpful. Their set of documents is good for technique of exporting. There are a good many books in foreign languages. Foreign exchange is satisfactorily treated in Escher, York and Whittaker. The lecturers in New York University have put out a satisfactory book on Marine Insurance, by William D. Winter, published by McGraw-Hill; one on Ocean Shipping, by Mr. Annin of the Century Company, and a book on Charter Parties, by Mr. Poor. In practically all of the remaining courses which we offer, the lecturer furnishes the material, giving out assignments in various books and other sources of information.

"While no definite arrangement is made between New York University and any business house, we are drawing large numbers of students from the big foreign trade houses in New York City. Practically all of our students are associated with business houses, and up until the recent slackening in foreign trade work were in foreign trade houses. We have something like 430 such students.

"We believe that the student ought to have a broad knowledge of foreign trade and foreign conditions. If he is to have permanent success in foreign trade, he should know foreign finance, foreign geography, some language, the technical aspect of importing and exporting, a fairly good knowledge of insurance and as detailed information as possible of the country to which he expects to go, a knowledge not only of the economic resources, transportation, etc., but of the customs and habits of the people.

"Our method of training men is a combination of classroom lectures and text-book or assigned readings on the one hand and practical experience in a foreign trade house on the other."

SUGGESTED LIST OF BOOKS HELPFUL IN TRAINING FOR FOREIGN COMMERCE

South America.

A Brief Bibliography of Books in English, Spanish and Portuguese, Relating to the Republics Commonly called Latin-America, with comments. By P. H. Goldsmith. (The Macmillan Co., New York, 1915.)

Bibliography of Foreign Trade Publications. By H. S. Shuey. (The Ten Bosch Co., San Francisco, 1918.)

Conquest of the Tropics. By Frederick Upham Adams. (Doubleday, Page & Co., New York, 1914.)

Selling Latin America. By W. E. Aughinbaugh. (Small, Maynard & Co., Boston, 1915.)

Across South America. By Hiram Bingham. (Houghton, Mifflin Co., New York, 1911.)

South America: Impressions and Observations. By James Bryce. (The Macmillan Co., New York, 1917.)

Understanding South America. By Clayton Sedgwick Cooper. (George H. Doran Co., New York, 1918.)

The Republics of South and Central America. By C. R. Enock. (C. Scribner's Sons, New York, 1913.)

Tropical America. By Isaac N. Ford. (C. Scribner's Sons, New York, 1893.)

Latin-America: Its Rise and Progress. By F. Garcie-Calderon. (C. Scribner's Sons, New York, 1913.)

A Guide to South America. By W. A. Hirst. (The Macmillan Co., New York, 1915.)

Caribbean Interests of the United States. Chester Lloyd Jones. (D. Appleton & Co., New York, 1916.)

South America. By W. H. Koebel. (T. Fisher Unwin, London, 1918.)

British Exploits in South America. By W. H. Koebel. (The Century Co., New York, 1917.)

The Diplomatic Relations of the United States and Spanish America. By John H. Latane. (The Johns Hopkins Press, Baltimore, 1900.)

Up the Orinoco and Down the Magdalena. By H. J. Mozans. (D. Appleton & Co., New York, 1910.)

The South American Tour. By Annie S. Peck. (George H. Doran & Co., New York, 1916.)

Panama to Patagonia. By Charles M. Pepper. (Young People's Missionary Movement of the United States and Canada, New York, 1916.)

Across the Andes. By Charles Johnson Post. (Outing Publishing Co., New York, 1912.)

South of Panama. By E. A. Ross. (The Century Co., New York, 1915.)

The Other Americas. By Arthur Ruhl. (C. Scribner's Sons, New York, 1908.)

Latin America. By William R. Shepherd. (Henry Holt & Co., New York, 1917.)

Getting Together with Latin-America. By A. Hyatt Verrill. (E. P. Dutton & Co., New York, 1918.)

It must be remembered that new books are being published frequently, and the student of South American conditions will naturally keep in touch with the reviews of these books in newspapers and magazines like the New York Times Book Review Supplement and the Literary Digest.

The Pan-American Union publishes monographs and booklets from time to time covering each of the individual countries of South America as to population, trade statistics, races, etc., and this literature can be acquired by writing to the Pan-American Union, Washington, D. C.

To those who would like to go more deeply into Latin-American study and who would like to specialize somewhat along political lines, a supplementary list is given herewith, emphasizing books on politics and travel:

In the Wilds of South America. By Leo E. Miller.

Under the Southern Cross in South America. By Williamson Buckman. (Book Publishing Press of New York.)

The Tropics. By C. R. Enock. (C. Scribner's Sons, New York.)

Railway Expansion in Latin America. By Frederick M. Halsey. (Moody Magazine & Book Co.)

The Monroe Doctrine: An Interpretation. By Albert Bushnell Hart. (Little, Brown & Co., Boston.)

The Monroe Doctrine: National or International. By William L. Hull. (G. P. Putnam's Sons.)

American Policy: The Western Hemisphere and Its Relation to the Eastern. By John Bigelow. (C. Scribner's Sons, New York.)

Latin America and the United States. By Elihu Root. (Harvard University Press.)

To the River Plate and Back. By W. J. Holland. (G. P. Putnam's Sons.)

International Relations of the United States. By Emory R. Johnson.

South American Archæology. By Thomas Joyce. (G. P. Putnam's Sons.)

The Rise of the Spanish Empire in the Old World and the New. By R. B. Merriman. (Set of 4 vols.)

Up the Orinoco and Down the Magdalena. By Rev. J. A. Zahm. (D. Appleton & Co.)

Along the Andes and Down the Amazon. By Rev. J. A. Zahm. (D. Appleton & Co.)

Romance of the Spanish Main. By N. J. Davidson. (Lippincott Co., Philadelphia)

American Diplomacy: Its Spirit and Achievements. By John Bassett Moore.

Two on a Tour in South America. By Anna Wentworth Sears. (D. Appleton & Co.)

South American Travels. By Henry Stephens.

Through South America's Southland. By Rev. J. Zahm. (D. Appleton & Co.)

Vagabonding Down the Andes. By Harry A. Franck. (The Century Co.)

Across Unknown South America. By A. Savage-Landor. (2 vols., Little, Brown & Co., Boston.)

Naturalist on the Amazon River. By Henry Walter Bates.

Travels Among the Great Andes of the Equator. By Edward Whymper.

Life of Pizarro: With Some Accounts of His Associates in the Conquest of Peru. By Arthur Helps.

Independence of the South American Republics. By F. L. Paxson.

Simon Bolivar. By F. L. Petre.

Modernizing the Monroe Doctrine. By C. H. Sherill.

Young Man's Chances in South and Central America. By W. A. Reid.

Europe

The Continent of Europe. By L. W. Lyde. (The Macmillan Co., New York.) \$2.75.

Seeing Europe by Automobile. By Lee Merriwether. (Baker and Taylor, New York.)

England and the English from an American Point of View. By Price Collier. (Scribner, New York.)

England. By Frank Fox. (A. and C. Black, London.)

London: An Intimate Picture. By H. J. Forman. (McBride-Nast, New York, 1913.)

The Charm of the Road. By J. J. Hissey. (Macmillan, New York, 1910.)

Bonnie Scotland and What We Owe Her. By W. E. Griffis. (Houghton, Mifflin, New York, 1916.)

Scotland of Today. By T. F. Henderson and Francis Watt. (Pott, New York, 1907.)

The Ireland of Today. (Small-Maynard, Boston, 1915.)

Irishmen All. By G. A. Birmingham. (Stokes, New York, 1913.)

France Under the Republic. By J. C. Bracq. (Scribner, New York, 1910.)

The France of Today. By Barrett Wendell. (Scribner, New York, 1919.)

France from Sea to Sea. By A. S. Riggs. (McBride-Nast, New York, 1913.)

Paris Reborn. By H. A. Gibbons. (The Century Co., New York, 1916.)

The True Story of Alsace-Lorraine. By E. A. Vizetelly. (Stokes, New York, 1918.)

Greater Italy. By W. K. Wallace. (Scribner, New York, 1917.)

The New Italy. By Frederico Garlanda. (Putnam, New York, 1911.)

Italian Travel Sketches. By James Sully. (Scribner, New York, 1912.)

Russia and Europe. By Gregor Alexinsky. (Scribner, New York, 1917.)

Russia and the World. By Stephen Graham. (Macmillan, New York, 1917.)

Potential Russia. By R. W. Child. (Dutton, New York, 1916.)

Through Russia in War Time. By C. F. Coxwell. (Scribner, New York, 1916.)

Scandinavia of the Scandinavians. By H. G. Leach. (Scribner, New York, 1915.)

The Charm of Scandinavia. By F. E. and S. A. Clark. Little, Brown & Co., Boston, 1914.)

Rural Denmark and Its Lessons. By H. R. Haggard. (Longmans, Green, New York, 1911.)

In Viking Land. By W. S. Monroe. (L. C. Page, Boston, 1910.)

Swedish Life in Town and Country. By O. G. von Heidenstam. (Putnam, New York, 1904.)

Belgium, Her Kings, Kingdom and People. By J. de C. MacDonnell. (Little-Brown, Boston, 1914.)

Belgium the Land of Art. By W. E. Griffis. Houghton, Mifflin, Boston, 1912.)

The Spell of Belgium. By Isabel Anderson. (Page Co., Boston, 1915.)

A Shore History of Spain. By C. E. Chapman. (Macmillan, New York, 1918.)

The Truth About Spain. By G. H. B. Ward. (Cassell, New York, 1911.)

In Spain. By John Lomas. (Macmillan, 1908.)

Home Life in Spain. By S. L. Bensusan. (Macmillan, New York, 1910.)

Portugal of the Portuguese. By A. F. G. Bell. (Scribner, New York, 1916.)

Germany and the Germans from an American Point of View. By Price Collier. (Scribner, New York, 1913.)

Modern Germany. By J. E. Barker. (Dutton, New York, 1915.)

Old Homes of New Americans. By F. E. Clark. (Houghton, Mifflin, New York, 1913.)

Austria: Her People and Their Homelands. By James Baker. (John Lane, New York, 1913.)

Holland of the Dutch. By D. C. Boulger. (Scribner, New York, 1913.)

Home Life in Holland. By D. S. Meldrum. (Macmillan, New York, 1911.)

Switzerland of the Swiss. By Frank Webb. (Scribner, New York, 1909.)

Switzerland. By Frank Fox. (A. C. Black, London, 1914.)

Greece and the Greeks. By Z. D. Ferriman. (James Pott, New York, 1910.)

A Ride Through the Balkans. By A. E. Conway. (Sturgis & Walton, New York, 1917.)

The Balkans. By Forbes Nevill, A. J. Toynbee, D. Mitrany and D. G. Hogarth. (Oxford University Press, New York, 1917.)

Germany as It Is Today. By Cyril Brown. (Doran, New York, 1918.)

Albania, the Foundling State of Europe. By Wadham Peacock. (D. Appleton, New York, 1914.)

Finland and the Finns. By Arthur Reade. (Dodd, Mead, New York, 1917.)

Rumania, Yesterday and Today. By Winifred Gordon. (Lane, New York, 1918.)

Unchained Russia. By C. E. Russell. (D. Appleton, New York, 1918.)

Economic Consequence of the Peace. By J. M. Keynes. (Harcourt, Brace & Howe, 1920.)

New Eastern Europe, The. By Ralph Butler. (Longmans, Green & Co., New York, 1919.)

The Resurrected Nations. By I. D. Levine. (Stokes, 1919.)

What Happened to Europe. By F. A. Vanderlip. (Macmillan Co., New York, 1919.)

Albania, Past and Present. By C. A. Chekrezi. (Macmillan, New York, 1919.)

Modern Austria: Its Racial and Social Problems. By Virginio Gayda. (Dodd, Mead & Co., New York, 1915.)

Bulgaria's Problems and Politics. By G. C. Logio. (William Heinemann, London, 1919.)

Bulgaria and Her People. By W. S. Monroe. (The Page Co., Boston.)

Independent Bohemia: An Account of the Czecho-Slovak Struggle for Liberty. By V. Nosek. (J. M. Dent & Sons, London, 1918.)

Industrial Development and Commercial Policies of the Three Scandinavian Countries. By Pool Drachmann. (Oxford University Press, 1914.)

The Near East.

The Balkans: A Laboratory of History. By William M. Sloane. (Abingdon Press.)

Montenegro: In History, Politics and War. By Alexander Devine. (F. A. Stokes & Co.)

The Turkish Empire: Its Growth and Decay. By Lord Eversley. (T. Fisher Unwin, London.)

Today in Egypt: Its Administration, People and Politics. By Alfred Cunningham. (Burst & Blackett, London.)

Asia Minor. By Walter A. Hawley. (John Lane Co.)

Fifty Years of Europe, 1870-1919. By Charles Downer Hazen. (Henry Holt & Co.)

The Servian People: Their Past Glory and Their Destiny. By Prince Lazarovitch-Hrebelianovich, with the collaboration of Princess Lazarovitch-Hrebelianovich. (Scribners.)

The Eastern Question: A Historical Study in European Diplomacy. By J. A. R. Marriott. (Oxford, Clarendon Press, New York.)

Greece of the Twentieth Century. By Percy F. Martin. (T. Fisher Unwin, London.)

Roumania: Her History and Politics. By D. Miltrany. (Oxford University Press.)

The Rise of Nationality in the Balkans. By R. W. Stetson-Watson. (Constable & Co., London.)

The Future of the Southern Slave. By A. H. E. Taylor. (T. Fisher Unwin, London.)

The Cradle of the War: The Near East and Pan-Germanism. By Henry C. Woods. (Little, Brown & Co., Boston.)

Armenia: A Martyr Nation. By M. C. Babrielian. (Fleming H. Revell & Co.)

The Fringe of the East. By Harry C. Lukach. (Macmillan Co.)

Persia: The Land of the Magi. By Samuel K. Nweeya. (John C. Winston Co., Philadelphia.)

The Man of Egypt. By Clayton Sedgwick Cooper. (Geo. H. Doran, New York, and Houghton & Stoddard, London.)

The Far East (General).

The Awakening of Asia. By H. M. Hyndman. (Boni & Liveright.)

The Problem of the Pacific. By B. C. B. Fletcher. (H. Holt & Co.)

The Pacific: Its Past and Future. By G. H. Scholefield. (Charles Scribner's Sons.)

The New Map of Asia. By Herbert Adams Gibbons. (The Century Co.)

The Far East Unveiled. By Frederick Coleman. (The Houghton, Mifflin Co.)

Democracy and the Eastern Question. By T. F. Millard. (The Century Co.)

Trading with the Far East. (Irving National Bank.)

The Modernizing of the Orient. By Clayton Sedgwick Cooper. (McBride, Nast & Co., New York, and T. Fisher Unwin, London.)

Contemporary Politics in the Far East. By Stanley K. Hornbeck. (D. Appleton & Co.)

Guide to the Orient, Osaka Shosen Kaisha. (Osaka Mercantile Steamship Co., Osaka, Japan.)

Eastern Exchange Currency and Finance. By W. F. Spalding. (Isaac Pitman's Sons.)

China and Japan.

The Truth About China and Japan. By B. L. P. Weale. (Dodd, Mead & Co.)

From Tokyo Through Manchuria. By L. T. Seaman. (D. Appleton & Co.)

The Open Door Policy and the Territorial Integrity of China. By S. Tomimas. (A. G. Seiler Co.)

Letters from China and Japan. By John Dewey. (E. P. Dutton Co.)

A History of the Japanese People. By Capt. F. Brinkley. (George H. Doran & Co.)

Japan at First Hand. By J. I. C. Clark. (Dodd, Mead & Co.)

Modern Japan. By S. W. Hershey. (Bobbs-Merrill Co.)

The Spell of Japan. By L. Anderson. (The Page Co.)

Japan and World Peace. By K. K. Kawakami. (Macmillan Co.)

Japan and World Trade. By K. K. Kawakami. (Macmillan Co.)

Japan in World Politics. By K. K. Kawakami. (Macmillan Co.)

Samurai Trails. By Lucian S. Kirtland. (George H. Doran Co.)

Japan: Real and Imaginary. By Sydney P. Greenbie. (Harper & Bros.)

The Development of Japan. By K. S. Latourette. (Houghton, Mifflin Co.)

Japan. By K. Asakawa. (P. F. Collier & Son.)

Japan and America. By Carl Crow. (McBride & Co.)

China Inside Out. By G. A. Miller. (Abingdon Press.)

Chance and Change in China. By A. S. Roe. (George H. Doran Co.)

Modern Constitutional Development in China. By H. M. Vinacke. (Princeton University Press.)

The Development of China. By K. S. Latourette. (Houghton, Mifflin Co.)

Village and Town Life in China. By Y. Liang. (G. Allen & Unwin, London.)

Modern China: A Political Study. By Sih-gung Cheng. (Oxford University Press.)

China and the World War. By W. R. Wheeler. (Macmillan Co.)

Peking Dust. By Ellen LaMotte. (Century Co.)

China of the Chinese. By E. T. C. Werner. (Charles Scribner's Sons.)

China Year Book for 1919-1920. Edited by H. T. M. Bell and H. G. W. Woodhead. (E. P. Dutton Co.)

Foreign Financial Control in China. By P. W. Overlach. (Macmillan Co.)

The Foreign Trade of China. By C. S. See. (Longmans, Green & Co.)

Public Debts in China. By F. H. Huang. (Longmans, Green & Co.)

Korea.

The Mastery of the Far East. By Arthur J. Brown. (Charles Scribner's Sons.)

The Oriental Policy of the United States. By Henry Chung. (Fleming H. Revell & Co.)

Korea's Fight for Freedom. By F. A. McKenzie. (Fleming H. Revell Co.)

The Rebirth of Korea. By Hugh Hueng-Wo Cynn. (Abingdon Press.)

Philippine Islands.

The Philippines, Past and Present. By Dean C. Worcester. (New York.)

The Americans in the Philippines. By James A. LeRoy. (Boston.)

The Philippine Islands. By F. W. Atkinson. (Boston.)

The Far Eastern Tropics. By Alleyne Ireland. (Boston.)

Economic Conditions in the Philippines. By Hugo H. Miller. (Boston.)

Report of the Governor General of the Philippine Islands to the Secretary of War, 1917. (Washington.)

The Philippines, the Land of Palm and Pine (an official guide and handbook). By J. R. Arnold. (Manila.)

India.

Indian Reforms, Imperial Idea and Provincial Progress (six speeches). By Sir Harcourt Butler. (Government Press, United Provinces, Calcutta, India.)

Intimate Glimpses of Life in India. By George Trumbull Ladd. (R. Badger.)

A Winter in India. By A. B. Spens.

The Empire of India. By Fuller.

Dutch East Indies.

The Dutch in Java. By Clive Day. (Macmillan Co.)

Java: Facts and Fancies. By Augusta de Witt. (Lippincott, Philadelphia.)

Java, Sumatra and Dutch East Indies. By A. Cabaton. (T. Fisher Unwin, London.)

Letters of a Javanese Princess, Raden Adjeng Kartini. Translated from original Dutch by Agnes L. Symmers. (Alfred A. Knopf.)

Canada.

The Canadian Commonwealth. By A. C. Laut. (Bobbs-Merrill Co., Indianapolis, 1915.)

The New Era in Canada. By J. O. Miller. (Dutton, New York, 1917.)

The Coming Canada. By J. K. Goodrich. (McClurg, Chicago, 1913.)

In Canada's Wonderful Northland. By W. T. Curran and H. A. Calkins. (Putnam, New York, 1917.)

The Tourist's Maritime Provinces. By R. K. Wood. (Dodd, Mead, New York, 1915.)

India.

The Real India. By J. D. Rees. (Methuen, London, 1907.)

The Indian Empire. (Oxford University Press, New York.)

India: Its Administration and Progress. By Sir John Strachey. (Macmillan, New York, 1911.)

The Passing of Empire. By H. Fielding-Hall. (Houghton, Mifflin, Boston.)

Indian Pictures and Problems. By Ian Malcolm. (Dutton, New York, 1907.)

India and the Indians. By E. F. Elwin. (Scribner, New York, 1913.)

The Malay Peninsula. By Arnold Wright and T. H. Reid. (Scribner, New York, 1912.)

Burma. By Sir J. G. Scott. (De La More Press, London.)

Siam. By W. A. Graham. (De La More Press, London.)

Murray's Handbook for Travelers in India, Burma and Ceylon. (Scribner, New York.)

Australia.

A Short History of Australia. By Ernest Scott. (Oxford University Press, New York, 1916.)

The New World of the South. By W. H. Fitchett. (Scribner, New York, 1913.)

Australia: The Making of a Nation. By J. F. Fraser. (Casell, New York, 1910.)

Australian Byways. By Norman Duncan. (Harper, New York, 1915.)

New Zealand in Evolution. By G. H. Scholefield. (Scribner, New York, 1909.)

Fiji and Its Possibilities. By Beatrice Grimshaw. (Doubleday, Page & Co., New York, 1907.)

Africa.

By the Waters of Africa. By Norman Lorimer. (Stokes, New York, 1917.)

The Union of South Africa. By W. B. Worsford. (Little, Brown, Boston, 1913.)

Impressions of South Africa. By James Bryce. (Century Co., New York, 1900.)

West Indies.

The Development of the British West Indies, 1700-1763. By F. W. Pitman. (Yale University Press, New Haven, 1917.)

The Cradle of the Deep. By Sir Frederick Treves. (Dutton, New York, 1908.)

Isles of Spice and Palm. By A. H. Verrill. (D. Appleton, New York, 1915.)

A Guide to the West Indies and Bermudas. By F. A. Ober. (Dodd, Mead, New York, 1914.)

The Book of the West Indies. By A. H. Verrill. (Dutton, New York, 1917.)

Books on Foreign Trade Technique

General.

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MR. L. A. HARVEY (The Texas Co.): Those of us who have had connection with foreign service have noted as one of the results of the war that young college men seem especially keen to enter this service. May I therefore suggest that if the college could help a young man to decide upon the country to which he wishes to go and would then have him devote some time to the study of the language, the people and the trade conditions of that country, such a plan would be of great service both to the young man and to the employment divisions of large corporations.

MR. L. N. DENNISTON: If we have such a high percentage of raw material and it is recognized we have most all of the money, how are foreign people going to buy our goods?

PRESIDENT KINCAID: Five nations are interested in that International Chamber of Commerce, the United States of America, Great Britain, France, Italy, and Belgium. There were delegates there from all of these countries, and the one big problem before that convention was to finance Europe so they could buy raw products from Great Britain and those that we have to sell, and it was decided nothing could be done, especially in the case of central Europe, until this matter of indemnity was settled, and that has only recently been settled.

They have one thing to sell over there, and that is labor. They will have labor in abundance to sell, and labor can operate if you supply them credit and raw materials, and that is what we have to do.

MR. DENNISTON: If we set up a high tariff wall, how can they sell us the goods they manufacture?

PRESIDENT KINCAID: It seems to me that is something that must be studied, and something that must be handled very carefully. I think we must adjust our tariffs to conditions, just as has been said here this afternoon about job analysis—we can draw no hard and fast lines, because the whole thing is in a state of flux. International business is in a state of flux, and we must take the conditions as they exist today and adjust ourselves to them. I am in hope that our politicians and statesmen at Washington will rise to the occasion and introduce such legislation as will promote the establishment of foreign commerce on the best basis possible. That is their problem, and it is also ours.

It is a tremendous problem to educate ourselves, and educate our personnel to take hold of this field intelligently and handle it successfully.

MR. J. E. BANKS: In the preparation of anything for export, the less advanced the people, the more necessary it is that we should be very particular indeed as to what we send.

There is much of Africa and South America and certain islands of the sea that have large possibilities for producing a supply of the world's food. With the competition that will occur with these foreign countries we must watch our policies to be able to get what we desire.

MR. J. D. GILL (The Atlantic Refining Co.): It seems to me that our striving after a big foreign trade is one of the sure indications that we really do not care very much, after all, about the waste of human energy. There is possibly only one good reason why there should be foreign trade, and that is, that the country shipping the commodity is the only country that can produce that commodity efficiently. In other words, the interchange of products should be an interchange of products which can be produced effectively in one country and not in another, and in that way we should have a flow of commodities which tend to increase the happiness of the whole world.

We have one hundred thousand men in a certain mining district, and they do not work efficiently; they are not well organized. The men who are doing the actual mining should be laborers on the outside, and the laborers on the outside should do the mining, but we get the work done somehow, wasteful as our process in using human energy is.

There is wastefulness, we will admit, but what is more wasteful is to take that commodity which we have produced, and consume considerably more human energy to transport it in freight cars to a seaboard city, then more energy in putting it on board of a ship; still more energy in transporting it by steamship across the water, and finally apply more energy in getting the commodity to its final destination.

There is no real reason why America should export such immense quantities of raw materials to Europe and Asia, when such immense quantities of ores and other natural resources can be produced in the countries to which we ship. It is simply a question of matching one waste of human energy against another

waste of human energy. It gets back to our selfish desire to dominate, when we produce immense quantities of products which we cannot consume and so ship them abroad. When we raise raw products which can be produced abroad, and ship them overseas to be returned to us as a finished product, it is a great waste of human energy.

PRESIDENT KINCAID: Where would England get her cotton if we did not send it to her?

MR. L. A. HARVEY: I suppose everybody who has anything to do with sending men abroad realizes the immense risks that are involved. In the first place, when men are sent abroad the temptations that confront them, especially the young men, are far greater because they are separated by many miles from their home ties, and these ties are likely to be forgotten. In these foreign fields the conditions are different, the morals are more lax, and it is a question whether or not these men will stand up in the face of these changed conditions and new temptations.

If they do not, the result is a tragedy for the men and their families, and there is a very large amount of money wasted, for they have been sent from 3,000 to 16,000 miles, and in case of failure they must be brought home at the expense of the Company sending them. Realizing these responsibilities, the Personnel Director should be familiar with the customs, moral standards and business conditions of the countries to which men are assigned, in order that he may the better fit each man to his job. But the greatest problem involved, as already suggested, is that of the character of the man.

It appeared from the discussion of the morning that the college has not gone very far in helping us to discover through psychological or other tests what the character of the applicant is. We still have to depend upon personal impressions and a careful investigation of a man's past. In this investigation, the home conditions from which a man comes seem to me the most important factor.

PRESIDENT KINCAID: There are a number of our universities that have introduced courses on the subject of preparing students for this foreign field.

DEAN R. L. SACKETT (Pennsylvania State College): We do not have a course in foreign commerce. We have one in indus-

trial engineering, which takes in a variety of fields, but it is not the thing you have in mind.

PRESIDENT KINCAID: I think the point touched on by Mr. Harvey is particularly important, and I find in talking to firms who have representatives, particularly in the Latin countries and in the countries where the customs are so different from our own, they find difficulty in selecting men who can go there, and stand up under the temptations they have to meet. The social life of the people is quite different from what it is in this country, and the social contact in those countries in many cases is more or less demoralizing to the men who are sent abroad, and they lose out in the business field.

In South America I believe it takes some time to break into a trade there, that the door to trade is through certain social amenities.

There must be an interchange of social amenities, in some cases running over weeks and months, before you can do business with him. You must establish real friendship before you are able to proceed further, and these conditions are the same to a great extent in all foreign countries, and it does require a man of character to stand up under these conditions, and maintain himself and his integrity. I think it is important to take up the study of the traits, characteristics and customs of the people in different countries in preparation for trade in foreign fields.

I cannot agree with my friend that we have no right to seek foreign trade. I think in the case of every American product that we send abroad, that as regards 90 per cent of it, we are really doing the other man as much of a favor as he is doing us by buying it, because I find a large part of our commerce has been in equipment and machinery, the result of the inventions in this country that have not developed abroad to anything like the extent we have, and they cannot produce these things as reasonably as we can.

I am sure we are serving the other fellow quite as much as we ourselves in developing this foreign trade.

(The meeting then adjourned.)

TRADE APPRENTICESHIP

TUESDAY AFTERNOON

PRESIDENT KINCAID, Presiding

PRESIDENT KINCAID: Mr. E. E. Sheldon, of R. R. Donnelly & Co., Chicago, will take charge of this group and act as Chairman.

MR. SHELDON: I trust we shall be informal this afternoon.

The assignment to the General Chairman was what supplemental subjects may well accompany the trade teaching of an apprentice school. The assignment resulted from some work that had been done in previous years. What supplemental work can we undertake in the apprentice training courses?

Last year some work in civics and economics was suggested, and it was felt that it might profitably continue, as it is required under the continuation school laws of a number of the States under which the younger students in our apprentice training courses are. It is desirable to do considerable work in civics and where to draw the line between civics and economics is a problem. In looking over the field these facts were presented. What shall we suggest?

The chairman, confronted with the problem, decided to determine the activities of the groups of the different training courses as furnishing the best available data, and I believe most of you received a letter asking for data, to furnish a ground-work upon which to base a report and, at the same time, give information which might be valuable in deciding upon the subjects.

The data gathered proved conclusively that a large proportion of the graduates remain with the corporations where trained and that of those who remain, many of them advance into executive positions.

Then, our question is: What supplemental training will best prepare young men in apprentice training courses for supervisory positions? The necessary trade training is presumed in regular courses.

The chairman ventures to suggest that the two most important supplementary subjects are: English and elementary economics as applied to industry, this including civics.

English, as a supplemental subject, is valuable alike to those who remain as skilled journeymen and to those who advance into

executive positions. The English instruction should include training and practice in the use of simple, concise business English, both oral and written, including a vocabulary of the principal terms in the industry, with attention to the mechanics of writing.

Probably all of us have prepared for our own use what might be called a glossary, or dictionary, of the terms used in the trade. We find in an industry, like printing, that young people especially in stenographic departments have need of something to give them a little insight into the words they are constantly using. It is just as necessary for the lads that are coming into industry to know a little something about the use of words, and, economics and English follow naturally.

A person's ability to receive and give orders, write reports, take part in conferences and executive meetings, depends largely upon one's power to use the English language clearly, concisely and at times forcibly. An illustration, A young man said to me a few years ago: "If I am going to advance much further in this organization I need more training in English because I meet with officers at different times and I find they can express themselves." He made arrangements to take a course in English and has continued for three winters and he is now able to express himself in much better form and is getting on, takes more interest and has more influence than he had before. So I believe it is worth while for us to see to it that our people who are going into executive positions have training in English.

The attention now given foreman training courses shows that executives must be trained to read and study books on formal training. At the risk of being termed pedantic the chairman would further suggest that each apprentice in training be required to read and report upon a certain number of standard books of literature, including fiction, biography, history and science. This training will give the young men a broader background and more of an outlook upon life.

The modern trend of industrial representation makes it necessary that a sound system of economics as applied to industry be taught in training courses, that the young executives as leaders, may have right views on the fundamental principles of industry as founded on sound economic principles. Interest is manifested in many quarters showing the need of a series of pamphlets on fundamental economic principles to combat the flood of pam-

phlets that are distributed in the guise of economic principles. This material is distributed free or sold at a nominal price.

I believe that at five cents per copy I can buy most any piece of the radical literature I care to get hold of, but if I wish to get the sound principles of economics I shall have to buy high priced volumes. One cannot expect our young people to buy these expensive volumes, if the other material is freely furnished. I believe it is up to us to prepare material on sound fundamental principles.

The President of the Simonds Manufacturing Company, last spring, offered a prize through certain educational journals to the students in the high schools and normal schools of the United States, of \$1000.00 and \$500.00 for the best essays on economics. Mr. Thompson, who for years was President of the Fitchburg Normal School, has been selected as assistant to the President of the Simonds Manufacturing Company and is preparing material on economics. Mr. Thompson said the president of the company for twenty years had been studying the subject and found it desirable and necessary to have fundamental material prepared. Mr. Kincaid found Harrolds in London had prepared a series of articles on economics and printed them in their house organ.

In the Report for 1920 there was printed as an appendix material on elementary economics. In Appendix II is material along similar lines that may serve as types of the subject matter necessary to prepare for instruction in elementary economics and civics. Many such lessons must be adapted to the concerns where used, just as it is necessary to prepare special lessons in mathematics for printers' apprentices or for machinists' apprentices.

The increasing development of continuation schools, owing to the Smith-Hughes law, makes it worth while to again call attention to the experience of the different States in the interest created in apprentice training as a result of the work begun in continuation classes. Twenty-eight States now have continuation school laws and under proper direction there will be a widespread interest in modern apprenticeship. A brief outline of the present status of continuation schools is given as Appendix III.

Under Appendix I, "Training in Industry," we have published

quotations from a considerable number of firms in regard to the value of training work. I believe it is material that will be very useful in getting other companies to go into this field. The report that Mr. Carey will give will also go into the efficiency side of the problem.

Appendix II, "Elementary Economics." I hesitated before printing this material, but I am so enthusiastic about the work and felt that it must be done; that at risk of criticism I sent the material to Mr. Hendershott to print.

Where are we going to get this material? That is the problem. There are a considerable number of firms that are preparing similar material. I think Mr. Allen asked something last night in regard to the question of how to keep teachers from buying blue sky.

I believe I should like to raise a question in connection with this; when I was in public school work years ago I found that as a teacher, and the teachers were not the only ones who were fit subjects for the preachers, the widows who had no one to advise them were also fit subjects for anyone who had stock to sell; a good many of my school friends invested and lost, I think, everything they had. The teachers, in our town, got together and discussed the best method for a teacher to invest small amounts. We finally got a banker to talk to the teachers and those who had a small amount to invest, usually with stocksalesmen who had nothing but blue sky to sell, and he told us the truth of the matter and gave proper advice.

We have exactly the same proposition in the industries, I believe. We have in our own organization a mutual savings organization where people can put away anywhere from twenty-five cents to ten dollars a week. I think that the most valuable thing that the cashier of our organization does is to advise people with a small sum of money how to invest it carefully.

We have a mutual savings association and if I put twenty-five cents in that association I become a share holder and I have an absolute right to know where every penny goes in the organization.

Is it not well to have our young people that have money to put in the Mutual Savings Bank, know where the interest comes from and how the funds are invested?

Another interesting thing is, in regard to our club, a man is

turned down on a sick benefit; has he not a right to know how to get a hearing clear through to the highest officer and, ultimately, if it is necessary for him to take it into an election and elect a board that favors his side.

Whereas organization has stock on the market, the members should know all facts in regard to the organization that are available for the public.

Is it not necessary for us to teach all our young people, and older ones as well, that schedules are necessary and after we have tried a schedule, to follow it? I wonder if we are getting away from our subject in training our young people to study schedules.

The third subject, I do not care to say anything about. It is a field that you will be perfectly safe to keep away from.

The Third Appendix: "State Reports on Continuation Schools. Part-time and Continuation Schools." I believe that it is going to be quite necessary for all of us in industry to cooperate even more closely than we are now doing with the continuation school in our local chapter meetings.

COMMITTEE ON TRADE APPRENTICESHIP

E. E. SHELDON, *General Chairman*

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Lester, Pa.

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WINCHESTER REPEATING ARMS COM-
PANY
New Haven, Conn.

Mr. J. B. CHALMERS

THE YALE & TOWNE MANUFACTURING
COMPANY
Stamford, Conn.

Mr. J. J. GARVEY

WESTERN ELECTRIC COMPANY
Chicago, Ill.

Mr. G. H. PFEIF

GENERAL ELECTRIC COMPANY
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TENNESSEE FURNITURE CORPORATION
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Pittsburgh, Pa.

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Altoona, Pa.

Mr. F. W. THOMAS

THE ATCHISON, TOPEKA & SANTA FE
RAILROAD SYSTEM
Topeka, Kan.

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REPORT OF THE GENERAL CHAIRMAN

Committee on Trade Apprenticeship

The duties assigned to the General Chairman were: To suggest supplemental subjects which may well accompany the trade teaching of an apprentice school.

For one intelligently to suggest subject matter for study, it is necessary to know the probable life activities of those to be taught.

The chairman, confronted with the problem, determined that a study of the activities of the graduates of the apprenticeship training courses of corporation training departments would furnish the best available data upon which to make suggestions.

The data gathered, not only furnished the information sought, but incidently presented the strongest arguments available in favor of training courses in corporations, and as such has been embodied in Appendix I.

The data gathered proved conclusively that a large proportion of the graduates remain with the corporations where trained and that of those remaining, many advance into executive positions.

The problem thus becomes: What supplemental training will best prepare young men in apprentice training courses for supervisory positions?

The necessary trade training is presumed in the regular courses.

The chairman ventures to suggest that the two most important supplemental subjects are: English and elementary economics as applied to industry, this including civics. English as a supplemental subject is valuable alike to those who remain as skilled journeymen and to those who advance into executive positions. English instruction should include training and practice in the use of simple, concise business English, both oral and written, including a vocabulary of the principal terms in the industry, with attention to the mechanics of writing.

A person's ability to receive and give orders, write reports, take part in conferences and executive meetings, depends largely upon one's power to use the English language clearly, concisely and at times forcefully. The attention now given foreman training courses shows that executives must be trained to read and study books on formal training. At the risk of being termed pedantic the chairman would further suggest that each apprentice in training be required to read and report upon a certain number of standard books of literature, including fiction, biography, history and science. This training will give the young men a broader background and more of an outlook upon life. The modern trend of industrial representation makes it necessary that a sound system of economics as applied to industry be taught in training courses, that the young executives, as leaders, may have right views on the fundamental principles of industry as founded on sound economic principles. Interest is manifested in many quarters showing the need of a series of pamphlets on fundamental economic principles to combat the flood of pamphlets that are distributed in the guise of economic principles. This material is distributed free, or sold at a nominal price.

Someone has said that pamphlets teaching economic doctrines entirely foreign to the American viewpoint are sold for a few cents a copy, while practically nothing is being done to counteract the effect, as standard books on economics all sell at prices that place them beyond the reach of the average reader. Several member companies are meeting this situation by preparing material to educate their workers in elementary economics and publishing the articles either in the employe magazine or in pamphlet form.

The president of one member company recently offered two prizes of \$1,000 and \$500, respectively, for the best essays on economics written by high school or normal students. The former president of a large normal school is now employed by the same concern in its educational work.

All these moves are in the right direction and will lead to courses that will direct thought along the lines of fundamental economics being given, not only in the public schools but in all training courses.

The results will be certain doctrines now too prevalent will give way to fundamental principles as applied to American industry.

In the report for 1920 there was printed as an appendix material on elementary economics. In Appendix II is material along similar lines that may serve as types of the subject matter necessary to prepare for instruction in elementary economics and civics. Many such lessons must be adapted to the concerns where used, just as it is necessary to prepare special lessons in mathematics for printers' apprentices or for machinists' apprentices.

The increasing development of continuation schools, owing to the Smith-Hughes law, makes it worth while to again call attention to the experience of the different States in the interest created in apprentice training as a result of the work begun in continuation classes. Twenty-eight States now have continuation school laws and under proper direction there will be a widespread interest in modern apprenticeship. A brief outline of the present status of continuation schools is given as Appendix III.

E. E. SHELDON,

*Supervisor of Apprentices, R. R. Donnelley & Sons
Co., Chicago.*

APPENDIX I

Training in Industry

An Outline of Training Courses, with Arguments in Favor of Maintaining Such Courses

TRAINING IN INDUSTRY

Systems, definitions.

1. Vestibule training.

Short term intensive training courses in single units to develop ability to produce in some one particular line; as, a catalogue compositor, or a lathe hand. Adapted to older workers

who have had no training and can be advanced by means of such training. Should not be given to younger employees.

2. Apprentice training.

A long term extensive training course, requiring thorough training in a number of operations, or units, and requiring a period of years to complete. Adapted to younger workers, who can spend the necessary time and are willing to obtain the broader training in order to prepare for the better positions. Thorough training requires an apprenticeship; to obtain the same training by means of vestibule courses requires several times as long as by apprenticeship.

APPLICANTS

Tests.

1. Vestibule courses.

^aPreliminary education sufficient to enable the student to profit by the course. ^bPhysically able to do the required work. ^cCorrect attitude toward the work.

2. Apprentice courses.

^aAge, ^beducation, ^chealth and physique, ^dattitude. Financial condition of parents or guardian.

Term of apprenticeship.

Depends upon the trade, must be long enough to give thorough training so that the boy finishing a term can be given journeyman rates at once. Something to look forward to in the future.

THE AGREEMENT

For the apprentice.

Regular work for a period of years with assured advances both in training and pay.

For the employer.

Better selection as is assured of the services of the apprentice for a period of years.

VALUE OF TRAINING

Compare trained men with those who have had no regular training ^ain earning ability; ^bin mobility in times of unemployment; ^cin ability to supervise.

DOES TRAINING PAY THE EMPLOYER

•Men trained remain as an asset •when they leave good advertising. Statistics show that in corporations maintaining training departments from 50% to 80% of those trained remain with the firm and of those trained a large per cent become executives.

CONTINUATION SCHOOL PROBLEMS

Attendance, reports, courses. Pay while in attendance.

The following material furnishes excellent arguments in favor of corporation training courses. The data was gathered in answer to the following questions sent to a number of member companies:

As an argument for the establishment of apprentice training courses in corporations it has been found that figures such as the following answer the question: Do the graduates remain with the organization that trains them?

In the *Lakeside Press*, with a two-year pre-apprentice course and a five-year apprentice course, seven years of training, we have graduated six classes, and now, at the end of twelve years, 80% of our graduates are still with us, and of this number, 15% are executives.

Would you be willing to furnish data regarding your graduates to use in our annual report as an argument for the establishment of training courses?

WESTERN ELECTRIC COMPANY

We have been training toolmaking apprentices from fifteen to eighteen years old and find that graduates of this course of training are usually permanent employees. It also shows that of the graduates over ten-year periods approximately 80% of them are still with the company and of this number 20% are filling supervisory positions.

We do not maintain a graduate organization of any kind for these apprentices.

I believe the best arguments for maintaining apprentice courses in the industries are that the all-skilled workman must

learn a trade from some source or other and as the old apprentice system has been abandoned, industries must supply that training if they are to require it of applicants for employment.

There is no other way that a man can learn this except through a certain amount of experience and it is our business to furnish that experience. Of course, this experience can be acquired much more quickly and more efficiently if a thorough, systematic method of development is in operation. If an industry does not train these employes and does require them to be trained when they are employed, it means that they are placing the responsibility of this development upon some other industry and are evidently taking their help from surrounding industries.

I think this puts in a nut shell the reason why most of us are spending money in developing employes.

J. J. GARVEY,

Chief of Works Training Division.

R. HOE & COMPANY

The best argument we can advance in answer to the question covered by the second paragraph of your letter is that we have maintained an apprentice system in our works since 1858, and we have improved the course in many ways since that time. At the present time we have a total of 160 apprentices in our works and have no difficulty maintaining this quota, as we always have boys wanting to enter as soon as the opportunity presents itself. At present we are putting on about sixty new apprentices a year, some of whom serve four years, while others five years. We graduate about twenty apprentices a year, so that you will see by this that we lose about two-thirds of those who start during the course of their apprenticeship. A recent census showed that 25% of the employes in our plant were former apprentices; in addition, 90% of our foremen went through our works as apprentices, and several of our chief executives were former apprentices.

In conjunction with the apprentice system, we operate under our own management a technical school, which the apprentices

are required to attend three nights per week, this being considered a part of their apprenticeship. The subjects of mechanical drawing, arithmetic, algebra, trigonometry, geometry, business English and mechanics are taken up. There are eight grades in the school, each of which requires four months to complete.

The apprentice system as conducted by us gives us competent mechanics and executives in every branch of our business, and is highly satisfactory to us from every angle.

We find the young men whom we train are able to make a good living in every case and at all times are able to take care of themselves. In a number of instances men who have left us and gone elsewhere have shown their ability to fill important positions, and we are proud to say that a number of our graduates are recognized as men of training and ability in a number of positions throughout the country.

WM. J. STRAIN,

Supervisor of Apprentices.

GENERAL ELECTRIC COMPANY

A large percentage of our boys remain in the organization after the completion of their course and some are advanced to responsible positions. We have an alumni association of graduates and they hold regular meetings, both social and educational.

We maintain apprentice courses because they provide skilled workmen for our drafting room and shops and these men are not the grade which ordinarily apply at the employment office. Our company has maintained apprentice courses for approximately twenty years, not only in Schenectady but in our other factories, and these departments are expanding in proportion to the growth of the company.

G. H. PFEIF,

Secretary of Student Committee.

AMERICAN LOCOMOTIVE COMPANY

We find after eleven years of experience that 53% of our graduates are still with us. In view of the fact that there have

been a number of shut-downs during these years, in which our forces have been more or less scattered, we consider the percentage very satisfactory.

We have an apprentice club for providing social life among our apprentices during their course of training, but we have no definite organization for graduates.

In our industry the chief purpose in promoting apprenticeship is to obtain a number of men who are skilled in the various branches of work involved in a department. While a few of our apprentices have become gang bosses and foremen, most of them have remained in their department as skilled workers or utility men (men who can be used as emergency arises anywhere in the department).

Even where a graduate apprentice settles down on a definite job as a skilled mechanic, we believe his training has the following advantages:

(a) A broader training has given him better judgment and a higher degree of intelligence in the performance of his work.

(b) Because he has worked around the department he has no fear of specializing, as he knows that he can at any time take a different job if circumstances require. The man who lacks this training either becomes a very narrow worker or he will shift from one job to another in the hope of finding something better.

L. L. PARK,
Superintendent of Welfare.

THOMAS MADDOCK'S SONS COMPANY

From what little information I have pertaining to the subject referred to in your letter, I find that 90% of our apprentices remain with us after their apprenticeship is completed.

The apprenticeship in our business covers a period of five years, and all apprentices are segregated in one department where they are supervised by an apprentice foreman who continually instructs them in their work.

J. T. SULLIVAN,
Advertising Manager.

WESTINGHOUSE ELECTRIC & MANUFACTURING COMPANY
(South Philadelphia Works, Lester, Pa.)

An examination of our record shows that of our first twenty-two apprentices graduating in 1894 and 1895 that thirteen are still with the company, holding positions of general foremen or better. Just what percentage of more recent graduates are still with us I cannot say exactly, but know that it is considerably higher.

We do not have an association of graduates, although such a thing is contemplated.

The arguments which indicate that apprenticeship is worth while are those we have used so often: that an efficient, reliable force can only be built up through apprenticeship, and no progressive concern can afford not to conduct such training.

R. F. CAREY,
Supervisor of Education.

THE NATIONAL CASH REGISTER COMPANY

Forty-eight per cent of the trade apprentices graduated by us are still with the company. About 10% have attained foremanships or job foremanships. The figures cover the last twelve years.

A. C. LAMPMAN,
Head of Apprentices.

WESTINGHOUSE ELECTRIC & MANUFACTURING COMPANY

Undoubtedly in a good many plants trades apprentice instruction will come up this year for a decision as to whether it is really necessary under modern manufacturing systems. Personally I feel that there is still an extensive field for training of this kind, although I fully recognize the necessity for making such changes in subject matter, methods of instruction, etc., as will adequately meet changing conditions. It would seem that the newer apprenticeship will require better selection of men and more emphasis on organization, management and personnel prob-

lems and less attention on purely machine tool operation problems, with the feeling that those who have completed a training of this kind, in the industries, will be ultimately called on to take up executive or advisory work rather than machine tool operating work.

C. S. COLER,

Manager, Educational Department.

THE BULLARD MACHINE TOOL COMPANY

Up to the time when the depression in business struck us we probably had about twenty-four men who had taken the apprenticeship course with us—steadily employed, three of them are now occupying positions as foremen of departments, and while I cannot give you exact figures, I believe it would be safe to say that apprentices graduated during the past four years we have probably lost about 22 to 25%.

The apprenticeship training course as applied by The Bullard Machine Tool Company is, to our mind, a very great incentive for the young man, and bearing out this point usually we have a waiting list of forty to fifty applicants. Without doubt those who take the course are extremely well satisfied, as it places them in a position where they have a trade at which they can earn a good livelihood.

HUGH M. ROBINSON,

Department of Employment.

THE AMERICAN ROLLING MILL COMPANY

We have graduated only two classes (fifteen men). All but one are still in the employ of the company.

We have no association of graduated apprentices.

We have one man who is an assistant foreman.

J. R. BERRY,

Chairman, Section II.

THE ATCHISON, TOPEKA & SANTA FE RAILWAY COMPANY

In reply to your inquiry relative to report of the Trade Apprenticeship Committee of the National Association of Corporation Training, I have the pleasure of advising you that since our apprentice schools were established, thirteen and one-half years ago, we have graduated a total of 1,539 skilled mechanics for our shops and roundhouses, fully two-thirds of these being actually in service of the road today, which, considering the period over which this extends, is a most remarkable showing. Fully 90% of our graduates of the past year are still with us. In fact, not a single graduate of the past four months has left us. Some 220 of these young men have been promoted to positions above the ranks, such as machine and erecting foremen, roundhouse and assistant roundhouse foremen, general foremen and division foremen and even that of master mechanic. In fact, the last three division master mechanics appointed on this railway were selected from the roster of these young apprentice graduates.

Answering your second question, would advise that we have no regular association of graduates, but this department aims to keep in touch with all these young men. There is a friendly interest among them, and there is a feeling of loyalty toward the company comparable to that of the college graduate for his Alma Mater.

Third, the results which we have accomplished from our apprentice school training are such that we would no more think of doing without the apprentice department than we would of doing without our power plants. The question of man-power is fully as important as that of locomotive power or mechanical equipment. The principal results accomplished by the training of our apprentices are as follows:

First. The development of skilled mechanics for our shops and roundhouses, mechanics which we consider the best to be found anywhere in the country; certainly none other would be so well suited to our needs.

Second. The increased output and work performed by apprentices. The additional work performed by employees being trained will in itself justify the cost of the training.

Third. The various by-products of the apprenticeship system, such as the technical work done by the school instructors, the assistance of the shop instructors to the foremen, and the wholesome effect upon the other men in the shop of the training given the apprentices.

One of the most important results accomplished has been the development and training of young men for official positions, mention of which has been made above.

F. W. THOMAS,

Supervisor of Apprentices.

THE YALE & TOWNE MANUFACTURING COMPANY

Because of the many transfers and lay-offs, due to the present industrial condition, I have been unable to compile reliable figures which would show the number of graduates of our apprentice courses remaining with our organization after graduation. I feel sure, however, that in all concerns that have well organized courses the numbers remaining prove that the work is worth while. A good average figure would be 60%.

We do not have an association of graduates, but I am strongly in favor of the plan and hope to organize one in our plant when conditions are more favorable.

Some arguments for maintaining apprentice courses are as follows: Apprentice courses develop trained men for the company maintaining the courses, since it has been shown that a large number remain with the companies after graduation; in trade work these courses are paying investments from a manufacturing point of view; the company obtains an efficient corps of loyal workers for future years, thus reducing the labor turnover; and, finally, there is the uncomputable return from the contribution made to better conditions in the community by educational work.

J. B. CHALMERS,

Director, Training Schools.

WESTINGHOUSE ELECTRIC & MANUFACTURING COMPANY

At the present time we are conducting an investigation to ascertain exactly how many of our graduate apprentices are with the company, and the position they hold. This information, however, will not be available for a month or so. I believe we have a creditable number of graduates in the employ of the company at the present time, and will be glad to furnish the figures when they are available.

We do not have an association of graduate apprentices.

The arguments in favor of maintaining apprentice training courses varies widely with individual firms and local conditions, and it is difficult to formulate a list of arguments with universal application. We carry on our work upon the fundamental principle that the young men within the company should have an opportunity to develop themselves along whatever lines their individual aptitude and interest demand. This is rather broad and general, but we all believe that a manufacturing concern owes this to its young men.

Secondly, we need trained journeymen.

Third, the journeymen trained by our courses furnish a reservoir from which to draw men to fill executive positions in our works' department.

I. B. SHOUP,

Supervisor.

WESTINGHOUSE AIR BRAKE COMPANY

Replying to your inquiry of the 4th, relative to trade apprentices, I regret to advise that our record is not as appealing as that of your organization. Since our apprentice course was instituted in 1902, to date we have graduated eighty-one apprentices out of a total of 155 indentured, fifty of the latter being cancelled for various reasons, such as inability to keep up studies, cancellation at request of parents, sickness, etc. We now have twenty-four boys on the course. Of the eighty-one graduates, twenty-eight are still in the service of the company and six of these hold executive positions, one our present works manager, one general superintendent of a plant and the others foremen in the works here.

We do not have an association of graduates, although this has been under consideration among the apprentices at various times, but they have reached no definite organization.

Our course is always full, twenty-four being the largest class we feel we can handle to the best satisfaction of all concerned, and the preference is always given to sons of present employees. We have a standing waiting list of applicants.

Some of our boys upon completion of their course desire to move around and gain experience in other plants, but of late years the tendency is to stay with the company. Practically all the graduates are assigned to tool room work and it is especially for this class of work that we maintain the apprentice course, as men for this type of work are not as available as in former years.

JAS. LITTLE,

Supervisor of Personnel.

AMERICAN BRIDGE WORKS

Each second year we start a new class of ten in the drawing apprentice four-year course. Almost all of these finish the course. About 50% remain with us. We consider that the training is of value, as the apprentice graduates in practice compare very favorably with college men.

We do not have an association of graduates.

J. E. BANKS.

SHEPARD TECHNICAL NIGHT SCHOOL

Our work was started in November, 1916, and the following May we had a total of fifty-five graduates. After four years about forty of these first graduates are in the employ of the Company. Eighteen of them are now identified with the school work in some way. Many of them will have completed from two to five of our courses at the end of the present season. Nearly all of these men are comparatively young men, and we can reasonably expect them to remain with us for many years.

We do not have an association of graduates, but I hope to be able to organize one, as I think it would be an effective way of conserving the results of our work. Each graduate is entitled to wear the emblem shown in blue and gold on the cover of our booklet. No others are allowed to have them.

There are many arguments in favor of training by industrial corporations. It is doubtful if I can add anything to the arguments which have been advanced so many times before. Aside from the increase in loyalty, and good feeling which is more or less intangible, there are the increases in efficiency of the individual and the opportunity afforded the individual to improve his position in his organization. I believe the question of the cost restrains some companies from undertaking training. I argue that a company which does no training pays out more money in other ways to make up for their lack of training than would be required to do the training. In addition, the money spent for training is cumulative. It continues to pay dividends year after year, while the money required to pay for losses due to lack of training is gone forever as soon as it is spent.

W. G. CATLIN.

WINCHESTER REPEATING ARMS CO.

I note that in your letter you ask for information in relation to our Apprenticeship Courses as follows:

- (1) How many apprentices graduate yearly?
- (2) How many graduates remain with the company?
- (3) How many graduates occupy executive positions?
- (4) Have we a graduates association?
- (5) Arguments for maintaining the courses?

Reply:

- (1) We graduate fifty yearly.
- (2) 65% remain with the company in normal times.
- (3) 12% occupy executive positions.
- (4) We have a branch of the Y.M.C.A. where the apprentices assemble for Physical, Social and Educational Exercises.
- (5) (a) Lessens labor turnover of skilled mechanics. (b) Better opportunity to get good material. (c) Opportunity to

train them properly for work. (d) Teach them Integrity and Loyalty. (e) By putting them in production work we are able to make the cost of training practically zero.

J. F. RAYMOND.

THE WARNER & SWASEY CO.

1. Do the graduates remain with the organization that trains them?

In The Warner & Swasey Co.:

Under date of May 15, 1920, before the present (March 11, 1921) extraordinary conditions developed, 71 per cent of the apprentice graduates were in the employ of the company, of whom there were

Chief executives	6
Foreman	8
Assistant foremen	7
Draftsmen	3
Inspectors	8
Demonstrators	3
Estimators	4
Salesmen	4
Machinists	13
Total	56

These men were all educated as *machinists*. As opportunity arose, or as a man showed ability along some particular line, he was promoted. It might be said that all were in the first instance machinists. These figures show conclusively that the training of Warner & Swasey apprentices is also equivalent to the training of executives.

Particular principal executives who began as apprentices might be mentioned:

Works engineer,
Works superintendent,
Assistant superintendent,
Employment supervisor,
Head of engineering department,
Head of designing and drafting department.

Among the graduate apprentices who have left the employ of the company are the Presidents of Lucas Machine Co., (Boring Mills); the P. A. Geier Co., (Small Machines); Industrial Machine Co., (Jobbing); National Tool Co., (Tool Makers); Bardons & Oliver, (Machine Tool Manufacturers). A number of business men, a number of doctors, a number of dentists.

Superintendents or assistant superintendents in many other manufacturing plants such as Cleveland Twist Drill, National Lamp, Vlchek Tool, White Motor, Cleveland Metal Products.

Machinists in practically every large plant in Cleveland.

All of these men have seen Warner & Swasey machines built from the rough casting to the finished product. They have worked on the production and assembling of practically every part. The presence of such men in plants that use the sort of machines we manufacture is of great aid to our sales organization—just how great we have no way of knowing. It is a well-grounded principle that a man will buy or recommend buying that product or machine that he knows thoroughly and favorably.

2. We do not have a formal association of graduates, though graduates are invited to the annual outing of the Apprentice Club.

At a certain meeting of shop superintendents and manufacturers in Cleveland a speaker remarked that "this looked like a meeting of The Warner & Swasey Co. Apprentice Club."

3. Arguments for maintaining apprentice training courses?

1. There is an acknowledged shortage of mechanics thoroughly skilled. The way to get such mechanics is to give them a thorough training. Some one must do it. At present the burden is borne by a few concerns. These concerns cannot take all the boys who wish to learn trades. Many likely applicants are turned away. Concerns not now conducting apprentice training courses, but needing skilled men must bear their share of the responsibility for training, or either they will not have the number of trained men they need, or else must go out and take them away from those who have trained them.

2. No concern can use men trained by another company to as good advantage as men trained by itself. The plant which has a training course has the advantage of getting the boy at his most impressionable age—16 to 20 years—and at the time when he

learns easiest and most rapidly. Sound principles of workmanship and manufacture can be most surely inculcated at that time. The same difference exists between men trained in your shop and outside exists between tailor made and ready made clothing. The first *must* fit, the second *may*.

3. Plant loyalty and plant morale are by-products only developed in the plant itself. The company with a training course has the great advantage of laying the foundation of the apprentice's moral as well as professional education.

4. School training is general. Plant training can be made specific on the points most important to the company, as well as on the general subjects of a liberal education.

5. Men thus trained are more likely to respond to, perpetuate and expand the characteristic policies of the company. Such is the material from which executives are made.

To summarize: Training by the corporation gives:

First—The mechanic trained thoroughly and in conformity with the policies and needs of the company.

Second—The material from which executives may be developed.

Third—Both of these without that loss of time and expenditure of money incident to re-training the man, more or less past his impressionable age, in the policies characteristic of the company.

"Remember," says J. Ogden Armour, "the boy of today is the executive of tomorrow."

F. T. JONES.

APPENDIX II

Elementary Economics

The trade apprenticeship report for 1920 included an outline on elementary economics and three type lessons.

The lessons when completed should include material on organization and management.

The three type lessons printed in this appendix are to illustrate:

(a) Business organization, to show that the final authority rests in the shareholders or voters; (b) 100%, to show how each individual arranges a schedule for himself that is no hardship, and to show the necessity of schedules and plans in business; and (c) a simple discussion of hours and wages to show how comparisons should be made. No complete course is as yet available. The following material is useful for reference:

Ten-Minute Talks with Workers. Doubleday, Page & Co.

Standard Education Course for Apprentices. United Typothetae of America, 608 South Dearborn St., Chicago.

Lessons in Community and National Life. Bureau of Education, Washington, D. C.

Tracts for the Times, by J. Laurence Laughlin, National Association of Manufacturers, 30 Church St., New York.

A Business Organization

A corporation is a group or body of individuals authorized by the laws of the state to act as a single person and endowed by law with the power of succession; a society having the capacity of transacting business as an individual.

A person by law can hold property, can sue and be sued, or is authorized by law with the power to collect debts and in turn can be compelled to pay just debts, also is protected in his rights by law; for this protection and the privileges he has as a member of society taxes are levied and collected against the individual. Failure to pay taxes causes forfeiture of property rights.

When a group of persons form an organization by incorporating under the laws of the state and receive a charter, the group then functions as an individual, and the organization, or corporation, through the properly authorized individuals known as the officers of the corporation, then has all rights of the individual and can do business as an individual within its charter limitations. Corporations are chartered for profit; or without profit. Business corporations are chartered to carry on business for profit and are usually composed of a group of persons each contributing a certain amount of money to carry on the business. The money contributed is usually represented by shares of stock,

which are of a certain face value, usually \$100.00 a share. The persons contributing the funds are known as shareholders, or stockholders, and together own the corporation. Each share of stock usually represents a vote, and a stockholder may own several shares and hence have several votes. The shareholders or stockholders usually elect a board of directors, who in turn elect the officers of the corporation. The officers are the management and run the business through the executives, whom they select and empower to function within certain limits.

The ultimate authority is vested in the stockholders as they have full authority to select a new board of directors when not satisfied with the management. The shares are usually subject to sale, the price depending upon the success of the business, going above the face value if the business prospers and falling below par or face value if the business does not do well. One person may buy up a majority of the shares and then control the votes and hence run the business to suit himself. The great business organizations of this country are not owned by a few individuals but by a large number of persons each owning a few shares of stock. The Pennsylvania Railroad is owned by hundreds of thousands of individuals scattered all over the United States. Whatever affects the railroads affects the stockholders. People are apt to think of a corporation as a great big intangible something, rather than a group of individuals, who have pooled their business interests and function as an individual. If any profits are made by the corporation, they are usually distributed at regular intervals and are known as dividends, usually a certain per cent on the value of the stock. A certain amount is also usually set aside for the purpose of keeping up the business in emergencies. These funds are known as a surplus.

The Lakeside Press Mutual Savings Association is a mutual organization, not incorporated, authorized to carry on the business of receiving deposits and loaning money. Each twenty-five cents deposited weekly for one year represents a share, and the holder has one vote for each share; as no one can hold over forty shares in one current year the organization is purely mutual and is managed through the officers elected by the shareholders.

All of the profits above actual operating expenses are returned to the depositors as dividends each quarter. The money depos-

ited is invested in high-grade bonds, loaned to employes on first-class mortgages on real estate and a limited amount on salary loans. The interest from these sources is used to pay the necessary expenses of the financial secretary and the balance is divided into two sums, first the interest allowed on matured shares, a fixed rate, second the balance remaining after interest allowance on matured shares is divided by the amount representing the active shares. This gives the interest rates for the quarter a certain per cent on the deposits. We will suppose that an account of ten dollars was started in July, 1920, the first dividend was paid October 1st, 1920—figured as follows:

Total deposits—thirteen weeks \$10.00—\$130.00.

Average amount during quarter, \$65.00.

Interest rate, 2 per cent.

Interest on \$65.00 at 2 per cent for thirteen weeks—\$1.30.

The next interest date is January 1st, 1921, and the interest is figured as follows:

On deposit October 1st, 1920, \$131.30.

Average amount from October 1st, 1920, to January 1st, 1921, \$65.00.

Total interest on interest, \$196.30

Interest rate $2\frac{1}{2}\%$ for second quarter.

Interest on \$196.30 at $2\frac{1}{2}\%$ for the quarter (thirteen weeks), \$4.91.

This method is continued each quarter and shows how interest accumulates on money deposited. The only requirements to become a shareholder in The Lakeside Press Mutual Savings Association is the ability to save a fixed amount of money each week and deposit it regularly. The association, known generally as the Bank, makes the matter of saving easy if one will authorize the cashier to deposit a fixed amount from one's weekly pay. When the total deposit of any employe amounts to \$1000.00, the sum must be withdrawn, as this limit is fixed in order to maintain a Mutual Association. The financial secretary will assist the depositor in selecting a high-grade bond or mortgage, or shares of stock in some corporation. For one to become a stockholder or part owner of a corporation it is necessary to save a certain sum

to invest in shares. Anyone in business either for himself, or in a corporation, has to face certain business risks. High interest rates, as well as large profits depend upon taking large risks; while more conservative methods will produce smaller returns these methods should be followed by investors having small sums to invest as they cannot afford to lose all of their savings in taking a chance at large returns in highly speculative organizations.

The Employes Benefit Association is another example of a mutual organization promoted to care for the members in case of accident, or sickness. Monthly contributions, depending upon the salary of the members, provides a fund to pay weekly benefits. The affairs are administered by a board of directors elected by the members. The board of directors elect the officers, who in turn elect a financial secretary, a physician, and also appoint a committee who pass upon all applications for benefits. Orders are drawn by the chairman of the benefit committee upon the financial secretary, who in turn draws an order upon the treasurer who in turn draws a check for the amount due as a benefit. The different steps are necessary in order to safeguard both the membership and the funds of the organization. In case a member is not satisfied with the action of board of directors the matter might go to the entire membership in an election when new directors might be selected to replace those whose action had been subject to criticism. The entire membership is the final source of power and controls the organization.

This simple outline will give one a general idea of an organization and how it functions in modern society; without corporations, society would return to a primitive state and each community produce the simple necessities of life. One cannot think in terms of a great railroad system except in terms of a corporation.

One Hundred Per cent

We use the term one hundred per cent in talking about standings in school; records in a factory, or the efficiency of machines, or of men. What does the term mean? What is one hundred per cent?

The writer is accustomed to take a certain train, and in order to catch the train must travel a mile from the office to the depot. His schedule is twenty minutes. Eighteen minutes requires extra exertion on his part and any delay would cause him to miss the train. Twenty minutes is his schedule, and when his actual time is twenty minutes he is comfortably seated when the train starts, and he is 100% efficient on that particular job. A delay would cause him to miss the train and endure a wait of thirty-five minutes, thus lowering efficiency. Were he able to cut fourteen minutes off his schedule he could get an earlier train, and his efficiency would be high.

If one divides 24 cents by 6 cents the result is 4. The question at once arises, "Four what?" And one must answer, "Four groups of 6 cents each."

This is fundamental and vital to the discussion that follows and must be clearly comprehended, for in mathematics nothing is taken for granted and everything must be absolutely and logically proved, or its value is worthless.

$24 \text{ cents} \div 6 = 4 \text{ cents} = 4$ — the number of groups, when 24 cents is separated into groups of 6 cents each.

$24 \text{ cents} \div 4 = 6 \text{ cents} =$ the number of cents that will be in each group when 24 cents is separated into four groups.

If the division is arranged in the form of fractions, the analysis is the same; as,

$$\frac{24 \text{ cents}}{6 \text{ cents}} = 4. \quad \frac{24 \text{ cents}}{4} = 6 \text{ cents}.$$

If the fractions are arranged in the form of a ratio, the same principles still apply; as, $24 \text{ cents} : 6 \text{ cents} = 4 \text{ ratio}$.

$$\frac{1}{1} \quad \frac{10}{10} \quad \frac{100}{100} = 1.00 = 100\%.$$

(The sign % is said to be 100 written in that form; per cent is from a Latin word meaning by the hundred.) If a rule is five inches long and we cut off a piece four inches long, we then have a piece $\frac{4}{5}$ of the original length. As $\frac{4}{5}$ of 5 inches is 4 inches, the piece of rule we have is $\frac{4}{5}$ or $\frac{8}{10}$ or .80 or 80% of the original length. Eighty per cent means that we have $\frac{8}{10}$

of the original length, or to put it in simple fractional form $\frac{4}{5}$ of the original length.

Per cent simply means another form of ratio, or comparing of two like numbers, and expressing the results in hundredths. A given number or quantity is compared with another like number or quantity and the result is expressed in the form of hundredths. In each case there is a comparison and in each case there are certain relations that can and do exist.

If after careful study and experiment under normal conditions and controlled surroundings and materials it is found that four hours is a reasonable time in which a man can perform a given piece of work, that time may be set as a standard time. Unconsciously we all set standard time for most of our movements in this world. The New York Central has found that "The Twentieth Century" can make the run between Chicago and New York in twenty hours. That is the standard time and everyone attempts to operate that particular train in that definite time. Its schedule calls for twenty hours, and each part of the run or operation is planned and arranged to meet the conditions imposed by the schedule. We schedule our day's work by arising at a certain time, performing certain tasks within time limits, catching a certain car, elevated train, or railway train, arriving at our work at a certain time and then sometimes we ask, "Why am I given a standard time or schedule to follow in performing my tasks?" Modern business demands definite time schedules in delivery and only by careful planning and scheduling down to minute details can the deliveries be made according to sales schedules. This demands that each individual do his share and this has led to time—studies, standard time, efficiency records, and various systems of bonus payments in different organizations. These are to influence individuals to put forth their best efforts and to assist in maintaining an organization that can be relied upon to perform the allotted tasks and to make deliveries possible within the promised time, in satisfactory condition and within the estimated cost of production, for only by so doing can an organization continue to exist and flourish and give employment to anyone. We will now return to our workman, who had an estimated time of four hours in which to perform his task. Conditions being normal, he performs the job within the limits set and

his actual time is four hours as against the estimated time of four hours, and we find by division that four hours (estimated time) \div 4 hours (the actual time) $= 1$ $=$ the relation of the two number of hours. The whole of anything is always 100% of it, hence we say the man's rate of doing work as compared with a reasonably estimated time is 100 per cent, or we say the man is 100% efficient. Again we may say a man is 100% efficient and knowing that the estimated time is four hours we know at once he took four hours to perform the work. As 100% of four hours is the whole of it, or four hours. Under all conditions we can determine a man's efficiency as compared with a certain estimated time, if we know the actual time and the estimated time. If the actual time is five hours and the estimated time is four hours, the comparison is as follows: 4 hours (estimate) \div 5 hours (actual) $= \frac{4}{5}$ $=$ the relation between the two times (meaning the man is $\frac{4}{5}$ as competent, or efficient, as some one else, or as is his own standard record). As $\frac{4}{5} = 80/100 = 80\%$, we say the man is 80% efficient.

If we find that some one performs the task set for four hours in three hours we have: 4 hours (est.) \div 3 hours (actual) $= \frac{4}{3}$ $=$ the relation between the two times (meaning the man is $\frac{4}{3}$ as competent, or efficient, as some one else, or as is his own standard record. As $\frac{4}{3} = \frac{400}{300} = \frac{133}{100} = 133\%$, we say the man is 133% efficient, which simply means that he can and does perform more than the standard amount set for the class of work performed. Various methods of rewards, or bonus payments, are in use to make it worth while for men to strive for high efficiency records. In some places these rewards take the form of promotions, money payments, or vacations.

WHAT ARE WAGES?

Volumes have been written upon wages and the bases for fixing wages, many and various panaceas to solve the wage-problem have been advanced and still we have ever with us the questions of wages and the hours of labor.

The following material offers nothing new on the subject, but

attempts to state in simple, non-technical language a few fundamental facts that each one must consider in discussing wages. It might be well in all industries, if wages were finally expressed in earning power for some definite period, such as a year, as now one cannot make comparisons that are worth while in stating hourly or weekly rates in various industries, not taking into account seasonal occupations and various other elements that must be considered in determining income from wages.

To study payments in money, as based on efficiency, it is necessary to consider the question "What Are Wages?"—and to attempt to determine the basis for fixing wages. Money wages is the amount of money one receives for his services, or exertion, and is to be distinguished from real wages, or the amount of commodities that one receives for his services, or exertion, either physical or mental. One who thinks only in terms of money forgets that money sometimes buys more and sometimes less, that it buys more at one place than another and more of certain articles than others. The amount of wages one receives is really measured by the real wages, or the amount of necessary articles one can purchase, rather than by the nominal, or money wages that one receives. Wages is really the share of the total production from a given industry that goes to the workmen. The total receipts must be divided among many different interests and includes rent, taxes, insurance, interest on investment, including equipment, upkeep, depreciation, and profits. Wages depends largely upon supply and demand, and being the largest single item of expense in certain lines, really makes the price, while in other lines the material being the largest item of expense makes the price. In certain lines the man-hour is reckoned in fixing prices, while in other lines the machine-hour which includes the man-hour fixes the price. Wages are paid in various ways; for example, on the number of pieces produced, piece-rates; on the output for a given period which becomes hourly rates for a given number of hours a day and a week, with extra time allowed for all product produced outside of regular hours, this being known as hourly rates a week, with overtime for extra hours. In either case one usually figures on either a monthly or weekly income based on the standard hours customary in the trade. After all necessary payments have

been made for taxes, insurance, interest, etc., the proper division of the remaining returns between the owners, who may be the workmen, and the workmen is the all important question. The proper distribution of wages for labor and profits to capital has so many questions that are common that only by cooperation can each attain a reasonable share by which to measure success. By increasing the number of workers, without increase in capital, production will not be increased, and only by increased production can more wealth be produced. Someone has said that two carpenters with one hammer cannot drive as many nails as they could if each had a hammer. We cannot increase wealth simply by increasing the number of workers. Where the production of each workman is high the general level of wages is high. If production is limited wages are usually low, even if at times held high by abnormal conditions. Where wages are held high for a time by abnormal conditions, workers are liable to adjust their standards of living to the abnormal rates and not save of the extra wages for the time of readjustment. Having purchased largely on the installment plan, based on abnormal wages, the workers have serious problems of readjustment and see no way out of the difficulty except by still higher wages, and thus an endless cycle is created; higher wages, higher prices.

The solution of the wage problem is not at hand. Each individual largely controls his production, hence his wages. The individual must learn to think in terms of real wages, what the measure of value, the dollar, will purchase when used to the best advantage, and on that basis figure his earnings, not be comparing pay envelopes with those working under different conditions and in different communities.

The younger man from a country town, or from a farm, hearing of the high wages in Chicago, comes to the city to seek a job, and unprepared for any particular line of work seeks a job and is given a severe shock when told what he can earn. He *accepts a position* and tries to live on his *income*. He is not accustomed to carfare, room rent, board, laundry and more expensive clothes and soon finds that while his nominal wages are higher than in Podunk the real wages he receives will hardly pay his bills, much less give him the same standard of living he has been accustomed to in his village or farm home. The

young man had figured wages as measured in dollars as his only basis. The experience of the country boy is paralleled by many in the city who are always chasing rainbows in quest of high wages, when high wages are close at hand for those who are able to produce and measure in terms of purchasing power.

Wages will probably always fluctuate, but may in time become standardized, so that each individual will receive his exact share in return for his exertion; until that time the nearest approach to such an ideal is the fixed wages with bonus for production.

APPENDIX III

State Reports on Continuation Schools Part-time and Continuation Schools

Part-time and continuation schools are now a part of the educational systems of at least twenty-eight States. The Smith-Hughes law has tended to encourage these schools in the different States.

These schools all have the same objects in view, the better training of the younger workers in industry. It was largely through the interest created by the training departments in corporations that the States are developing training courses.

The part-time and continuation schools will better prepare for the corporation training departments, but can never replace them, as certain training must be given on the actual job by those familiar with actual practice. Neither class of training can, nor should, attempt to replace the other, but each should supplement the other to give the young worker the best training possible.

The further development of part-time and continuation training courses will encourage more apprentice training courses, as has been the experience in Wisconsin.

The following reports from different States are interesting as showing the trend of training courses:

STATE OF WISCONSIN

By W. F. SIMON, *Supervisor of Apprentices*

To ascertain through what channels the present apprentices have been induced to learn a trade, and thus help us lay plans

to extend operations to those fields and to find means of bettering the apprenticeship, a questionnaire was sent to all apprentices. The results obtained were quite gratifying and will lead us to concentrate our efforts in new directions.

1. Examination of the questionnaire shows that 50% of the boys entered an apprenticeship on the advice and solicitations of the parents. About 40% of the number of boys became apprentices through their own choice and efforts, 5% through friends and mechanics. The vocational schools led the other 5% into some trade.

2. Over 75% of the apprentices knew nothing of the working conditions, prospects of the trade, or what the journeymen did before they became apprentices. It was simply a case of "buying a cat in a bag."

3. The questionnaire shows further that about 30% of the apprentices are doing some evening school work (a very pleasing revelation). The majority of the remainder manifest a desire to study and gain as much theoretical knowledge of their trade as possible. A preference is shown for the study of mathematics and mechanical drawing.

4. In answer to questions regarding their plans for the future, the answer is invariably given that it is their ambition to complete their apprenticeship and become first-class mechanics.

5. It was found that about 80% of all apprentices had either a brother or the father as a craftsman. But only 24% of the total number followed in the same trade, the tendency evidently being to select another trade.

6. About 25% of the machinist apprentices were instructed in machine shop practice in the vocational schools before entering an apprenticeship, which shows that the schools are doing good work.

Plans and Suggestions for the Future

Since boys, not apprentices, are so unqualified to select a trade because of their ignorance of the various trades, and since the parents are the chief agents for leading boys into a trade, some means must be put at their disposal to help them make a good selection of an occupation. To this end pamphlets, already

being written, covering such subject matters of each separate trade as: where carried on, skill necessary, tools used, safety, ventilation, light, whether it is seasonable or not, methods of entry, entry qualifications necessary, and what prospects are open to them in that trade, will be distributed among the boys to be taken home for discussion with the parents.

Distribution, if done at the continuation school, will, it is hoped, be supplemented by a lecture on the trade. To be certain that these trade analyses will be authentic and practical, each pamphlet will be submitted to some foreman or superintendent employed in that particular trade for suggestions and criticisms. This plan should help materially to place the right boy in the right occupation.

To encourage apprentices to do more evening school work the Wisconsin Apprentice will be used for informing the boys where evening and correspondence schools are conducted, the courses offered and the approximate cost of each. Names of books, and their publishers, relating to various trades will be published regularly. Efforts will be made to induce employers to keep a number of these books on hand for use of apprentices and journeymen.

The questionnaire shows that 75% of the apprentices were not at any time dissatisfied with their lot. The cause of dissatisfaction among the other 25% of the boys is for two reasons—wages and failure on the part of the employer to live up to his contract in giving the apprentice the necessary variety of work. To remedy the latter cause the employers will be asked to keep accurate records of the length of time the boy spends on each process or trade operation. In cities outside of Milwaukee the local vocation school director will be asked to help keep such records where apprentices are few and scattered.

Better supervision in our opinion is more important than the number of apprentices, and with the additional help in this department results to this end can be looked for. Placards, addressed to the journeymen, will be posted on shop bulletin boards, encouraging them to devote more attention to the instruction given to apprentices, because it is found journeymen are somewhat reluctant in imparting trade knowledge to the boys.

Some readjustment of wages of apprentices in the metal trades is desirable. It is unfortunate that wages were not set at a percentage of the journeymen's, so that they would fluctuate with the journeymen's instead of being at a certain set rate per hour. Apprentices' wages have not kept pace with the others in the past year or two. In the boy's third and fourth year his wages should be at least one-half of the journeyman's.

In response to letters sent to a number of boys who dropped their apprenticeship, the surprising fact was brought to light that about one-half the number did not know that the Industrial Commission was here to help them adjust any grievances they might have with the employers. They did not recognize this department as a third party to their contracts. It was found that those who did notify us of their difficulties were invariably given satisfaction and induced to remain at work after the cause had been removed.

To bring about a closer understanding between apprentices, employers and the Industrial Commission, an attempt is being made to organize a club in Milwaukee conducted exclusively by the apprentices. Here boys could get together to discuss methods of bettering apprenticeship, bringing up their grievances, listen to speakers, lay plans for educational activities, in short, anything that will add to the welfare of the apprentices.

STATE OF MINNESOTA

Q. Is there a State system of apprenticeship?

A. No.

Q. Is there a system of continuation schools?

A. We have a State provision for voluntary part-time and continuation schools and classes.

Q. How do industries and schools cooperate?

A. We find splendid cooperation between the schools and both employers and employees. In some cases schools are held in plants under public control, and in some cases the groups are brought together in public schools. We also assist corporations in establishing their own classes, particularly in the training of their teachers.

Q. What subjects, other than strictly trade subjects, do you recommend for vocational schools?

A. English, social sciences and some form of supervised recreation.

Q. Has your department prepared material on civics and elementary economics for the use of students in continuation schools?

A. We have no prepared material on the subjects of civics and elementary economics at the present time. With this letter we are sending you a copy of the latest plan for vocational education in Minnesota.

COMMONWEALTH OF PENNSYLVANIA

Pennsylvania has no State system of apprenticeship.

We have had a system of continuation schools since January, 1916. Forty thousand children each year of the fourteen to sixteen year age group are handled in these schools. The number of school districts maintaining such schools varies from ninety to one hundred and five. A copy of the law is sent under separate cover. The annual report is now in the hands of the printer. It will be some months before it will be available for distribution.

Cooperation between the industry and school has improved greatly since these schools were established. In general, it may be said that a failure to get satisfactory cooperation from industries come because school authorities do not put a definite proposition to the local industries.

In continuation schools the academic subjects are English, Industrial Geography, Civics, Hygiene, Arithmetic, and Drawing. The regular vocational school subjects vary according to the purpose of the particular school. In general, it may be said that they emphasize English, applied mathematics, elementary science, history and elementary economics. Work in drafting and blue-print reading, of course, is included.

THE UNIVERSITY OF THE STATE OF NEW YORK

There is no State system of apprenticeship. I understand that there is an old law on the statute books in regard to appren-

ticeship work, but it has been a dead issue for a great many years.

We are just beginning our part-time or continuation school program. Under the provisions of the law every community in the State with a population of five thousand or more inhabitants is required to establish and maintain part-time schools or classes. The law became operative this fall and must be fully operative by September 1, 1925, when all children between fourteen and eighteen years of age who are not in regular full-time schools must attend part-time schools. I am sending you a copy of the bulletin entitled "Organization and Administration of Part-time Schools." In this bulletin you will find a copy of the law.

There is a fairly close cooperation in this State between the manufacturers and the public school people. Our vocational education law requires every community maintaining vocational schools to appoint advisory boards made up of representatives of the industrial interests of the community. These boards or committees have been very active in bringing about a better understanding between the employers and the public school people.

At the present time we have in operation in the State twenty-two unit trade schools in which we teach the elements of a great many trades. One-half of the school day is devoted to shop work and one-half to courses in related drawing, related mathematics, applied science and general subjects—English, history and civics. Last year there were about 8,000 boys and girls enrolled for the trade courses. In addition to the day schools there were 42,000 men and women enrolled for evening vocational courses last year. Over one hundred different trade courses were offered in these schools. In a number of communities apprentices are required to spend two nights a week in the evening schools taking courses that supplement their daily work. For example, in New York City the photo-engravers have over 200 apprentices enrolled for courses at the Murray Hill Evening Trade School.

We are preparing courses for the part-time schools in the subjects mentioned in your letter. We are making an effort to work out one course including Essential Features of American History, Industrial History and Economics. We are also working out special courses in civics. Just as soon as this material is in shape copies will be forwarded to you.

You may be interested to know that we are maintaining evening trade teacher training courses at Buffalo, Rochester, Albany and New York City. This year 350 men who have had at least five years of successful trade experience are enrolled for these courses. We are able to recruit a very excellent supply of trade teachers through the evening teacher training courses. I am sending you under separate cover a copy of the evening teacher training announcement, and also a copy of the bulletin entitled, "State-aided Evening Vocational Classes." I am also sending you copies of two or three monographs which were prepared in connection with our summer school at Oswego. The material may be of interest to you.

STATE OF NEW JERSEY

There is no State system of apprenticeship in New Jersey. We have certain laws on apprenticeship, of course, but these are practically obsolete. So far as I know there are no indentured apprentices in the State. Certainly there is nothing that could be called a system of apprenticeship.

We have compulsory continuation schools. * These schools have only been in operation since September, 1920, and we have not yet issued a report in regard to their work. I am sending you, enclosed, a copy of the act under which they are established.

Your third question is a little indefinite. If you mean a plan of cooperation, I may say that that varies in different districts. In some instances the manufacturer supplies the necessary room and equipment and classes are held in the plant. In most cases, however, instruction is given in the school building. Where it is possible, hours of instruction are arranged to suit the convenience of the employer. You will realize that this is not always possible. The relation between the schools and employers is good and we have no complaint to make of the employers as a whole.

CONNECTICUT STATE BOARD OF EDUCATION

In answer to your questions:

Is there a state system of apprenticeship? Yes, in the trade schools.

Is there a system of continuation schools? Yes, but not compulsory.

Employers send young men to the schools four hours a week for technical instruction, paying the time so applied.

How do the industries and the schools cooperate? Satisfactorily.

What subjects other than strictly trade subjects do you recommend for vocational schools? English and definitely related academic subjects.

We have no specific line of instruction or material on civics.

CALIFORNIA STATE BOARD OF EDUCATION

2. Yes. Under separate cover is being sent a copy of Bulletin No. 23, Part-Time Education.

3. See Bulletin No. 23 P.-T. E.

4. Under separate cover is being sent a copy of Bulletin No. 23. Refer to pages 21-43.

5. The principles set forth in Bulletin No. 23 P.-T. E. largely govern in citizenship instruction. Courses in detail have not yet been worked out.

THE STATE OF UTAH DEPARTMENT OF PUBLIC INSTRUCTION

The State Department of Education has done very little in Utah up to date in establishing apprentice training systems. Even our continuation school work has not taken on a definite plan of trade preparatory or trade extension training. We are sending a copy of our law setting up part-time schools and the State plan for its operation for the year 1919-1920. The changes for the current year are of minor importance. However, we wish to state that the industries are responding very well to the requests of our continuation school people in allowing attendance, in permitting visits and studies of needs, and many cases in paying the employees for time at school.

We are recommending in addition to trade subjects, home economics for the girls with the related English, mathematics and citizenship, and for the boys in addition to their trade work

their related English, mathematics and citizenship. We have not prepared through the Department any specific course in either civics or elementary economics for continuation school use. We think that such should be done, however, and in the course of time expect to work out such material. It is my own belief that through these two subjects we can guide the point of view and interpretation of industry and economics and social responsibility of the continuation school students.

I am sorry we haven't more concrete data to give you, but probably at some later time we can give you more service.

THE COMMONWEALTH OF MASSACHUSETTS

1. Is there a state system of apprenticeship? There is no state system of apprenticeship.

2. Is there a system of continuation schools? If so, kindly send copy of the law and latest report. There is a system of continuation schools. Enclosed find a copy of the law and booklet.

3. How do the industries and the schools cooperate? There is no formal basis for cooperation, but without such formal basis it is an exception to find a community in which the industries and the schools are not cooperating.

4. What subjects other than strictly trade subjects do you recommend for Vocational Schools? See diagram on page 21 of the enclosed booklet.

5. Has your department prepared, or has it in preparation, material on civics and elementary economics for use of the students in continuation schools? If so, will you kindly send outline, or material used? Our department engages very little in the preparation of texts. We are sending you, however, copy of Bulletin No. 111, which covers some of the topics suggested.

MR. SHELDON: The report is divided into three parts. The first part, Section I, Manufacturing, will be presented by Mr. Carey.

R. F. CAREY: I do not know, in the last few years at least, of any subject that I have tackled with so much interest, enthusiasm and hesitancy as this matter of Economics of Apprenticeship.

At our convention last year, there developed a very marked demand for the information which we are trying to supply, and at which time, the elements of this report were discussed at the round tables where it became evident that these elements are so much subject to judgment and to local conditions that to prepare a report which would be acceptable to all is virtually an impossibility. What your committee has endeavored to do is to gather together representative data which will, at least, be an introduction to what apprenticeship means to those who are receiving it and to those who are giving it.

The assignment is divided into two portions. Dismissing the second part with simply the comments that it is an outline by which a supervisor of apprentices may be able to place before his students a scheme whereby the theoretical part of machine instruction may be given more systematically. We could have written volumes on the details of apprenticeship instruction as applied to machine operation. We consider it much more logical to outline a procedure which a supervisor can amplify to meet his own requirements, rather than to cover the entire ground in a way that would be necessarily too specific.

SECTION I—MANUFACTURING

Two assignments were made your Committee at the meeting of Committee Chairman held in New York on September 13th last.

1. To make a study of the economics of apprenticeship.
2. To make a further study of the standardization of apprentice instruction.

Your Committee, in presenting the following report on Part 1 of the assignment, is fully conscious of the fact that the data presented are open to considerable discussion from a number of different view points. There will be differences of opinion in regard to the applicability of machinist apprenticeship to various types of manufacturing establishments; there will be differences in regard to repetition production as compared with the manufacture of large units in small lots; there will be differences in regard to the view point of the management of the value of apprenticeship; there will be differences due to the human equation; there will be differences due to the condition of the local labor market.

What your Committee has endeavored to accomplish is to set forth, just as conservatively as possible, average conditions taking into consideration as many of the above mentioned view points as it is possible to include. The data, as furnished, has been taken from concerns North, South, East and West. On account of its highly confidential nature, specific instances have not been mentioned by name. The data have been compiled from authoritative cost statements of several member companies and may be regarded as an indication of just what apprenticeship means, financially, to those concerns rather than as a specific statement as to the actual money involved against which a question cannot be raised. It is the hope of the Committee that sufficient evidence will be presented to show that machinist apprenticeship is not the utopian idea of a biased few, but is based on sound economic principles by which a given amount of effort will produce a given amount of dollars in return, as tangible as any other activity conducted by industry.

PART 1

To make a study of the economics of apprenticeship.

We have divided the subject of Part I under four main headings:

- First. What the apprentice pays.
- Second. What the apprentice receives.
- Third. What the company pays.
- Fourth. What the company receives.

Taking up these several headings in order, we submit the following based on prevailing rates:

1. What the apprentice pays.

- a. Difference between the rates an apprentice is paid and the various rates for other work for which he is qualified.

Earnings of a machinist apprentice for four years	\$ 3,860
If working as a laborer at 45c per hour for four years	4,500
If working as a low grade operator at 55c per hour for four years.....	5,500

If working at such other vocations as may lie within the qualifications of a boy of sixteen to eighteen, such as messenger, bank clerk, grocery clerk, office clerk, etc., at \$22.50 per week for four years 4,700
 The average of the above three activities is..... 4,900
 $\$4,900 - \$3,860 = \$1,040$, or what the apprentice pays.

2. What the apprentice receives.

a. Money earned as an apprentice in four years 3,860
 b. Value of class instruction for four years..... 175
 c. Value of acquired skill and knowledge, which represents the excess earnings of a journeyman over a laborer for 30 years (low grade men) \$33,600. Excess earnings of foreman over self-made mechanic for 30 years (high grade men), \$37,400
 Average of the above two items..... 35,500
 d. Steadier employment (intangible). _____
 What the apprentice receives \$39,535

3. What the company pays.

a. Money paid as wages for four years..... \$ 3,860
 b. Cost of class instruction (including rent and supplies) 125
 c. Cost of shop instruction for four years..... 960
 d. Difference in earning capacity of machines when used in instruction work. Based on an average machine efficiency of an apprentice of 80%..... 780
 e. Spoiled work and breakage;—approximately the same for the apprentice and journeyman.
 f. Other overhead charges;—approximately the same for both apprentice and journeyman.
 What the company pays..... 5,725

4. What the company receives.

a. Value of production of apprentice for four years based on 80% average machine efficiency..... 3,125
 b. Value of production of skilled worker for thirty years in excess of cost..... 29,300

c. Value of decreased labor turnover for twenty
years 1,200

What the company receives. \$33,625

In commenting on the above, the cost of class room instruction has been based on the cost of similar instruction as given in various educational institutions, usually in night classes.

In determining the value of an apprenticeship for the average mechanic your committee has assumed a fair average working life to be thirty years.

The value of the decreased labor turnover was determined as follows: Statistics show that there is approximately 50% turnover among machine operators, that a conservative cost of turnover is \$200 and records indicate that 60% of apprentices remain with the company for twenty years, this being as far as records on this particular phase of the subject have been kept.

SUMMARY

1. What the apprentice pays.....	\$ 1,040
2. What the apprentice receives.....	39,535
3. What the company pays.....	5,725
4. What the company receives.....	33,625

An analysis of the above indicates that the company at the time of graduation of the apprentice has, in him, a net investment of \$1,825 on which it receives returns at the rate of approximately \$1,000 per year, consequently at the end of two years the account is balanced and the dividends begin to accrue.

PART 2

To make a further study of the standardization of apprentice instruction.

This portion of the report consists of an outline giving the main headings of a brief on the care and operation of the various machine tools in common use. It is the consensus of opinion of your Committee that rather than present a text book on machine operation which would be more or less specialized and be applicable only to specific cases, that it would be better to suggest

those items in which general instruction may be given and allow the supervisor of apprentices, by whatever title known, to fill in such text, as he may wish to present to his apprentices, in the form in which he would wish to have it, thus making it apply to his own conditions.

Outline for the Drill Press.

- a. Uses and sizes.
- b. Various types.
- c. Oiling and cleaning.
- d. Name and description of the various parts.
- e. Mounting the work.
- f. Tools used on the drill press.
- g. How the various tools are ground.
- h. Care of the tools.
- i. Speeds, feeds and cuts.
- j. Danger points.

Outline for the Shaper.

- a. Uses and sizes.
- b. Two distinct types.
- c. Oiling and cleaning.
- d. How the tool is carried.
- e. How the head is swivelled.
- f. How the table is mounted.
- g. How the work is mounted.
- h. The tools used on the shaper.
- i. How the tools are ground.
- j. How the tools are set.
- k. The feed mechanism.
- l. Speeds, feeds and cuts.
- m. The indexes.
- n. Danger points.

Outline for the Planer.

- a. Uses and sizes.
- b. Various types.
- c. Oiling and cleaning.
- d. How tools are carried.
- e. How rams are operated.
- f. How heads are mounted on rail and columns.

- g. How heads are swivelled.
- h. How rail is mounted.
- i. How the table is mounted and driven.
- j. Mounting the work on the table.
- k. Tools used on the planer.
 - 1. How the tools are ground.
- m. Setting the tools.
- n. The feed mechanism.
- o. The indexes.
- p. Speeds, feeds and cuts.
- q. Danger points.

Outline for the Miller.

- a. Uses and sizes.
- b. Various types.
- c. Oiling and cleaning.
- d. Description of various parts of the miller.
- e. Tools used on the miller.
- f. How the tools are carried.
- g. How the arbor is driven.
- h. Mounting the work.
- i. Speeds, feeds and cuts.
- j. Care of the cutters.
- k. Danger points.

Outline for the Lathe.

- a. Uses and sizes.
- b. Various types.
- c. Oiling and cleaning.
- d. Name and description of the various parts.
- e. Mounting the work.
- f. Tools used on the lathe.
- g. How the tools are ground.
- h. Setting the tools.
- i. Speeds, feeds and cuts.
- j. Various operations.
- k. Danger points.

Outline for the Vertical Boring Mill.

- a. Uses and sizes.
- b. Oiling and cleaning.

- c. How the table is driven.
- d. How the tools are carried.
- e. How the rams are operated.
- f. How the heads are swivelled.
- g. How the rail is mounted.
- h. Mounting the work on the table.
- i. Description of the tools.
- j. How the tools are ground.
- k. Setting the tools.
- l. The rapid traverse.
- m. Speeds and feeds.
- n. The indexes.
- o. Danger points.

Outline for the Horizontal Boring Mill.

- a. Uses and sizes.
- b. Oiling and cleaning.
- c. How the head is mounted.
- d. How the boring bar is driven.
- e. Tools used on the horizontal mill
- f. How the tools are ground.
- g. Mounting the work.
- h. How to set the bar true.
- i. Speeds and feeds.
- j. Danger points.

Outline for the Slotter.

- a. Uses and sizes.
- b. Oiling and cleaning.
- c. How the tool is carried.
- d. How the table is mounted.
- e. How the work is mounted.
- f. Tools used on the slotter.
- g. How the tools are ground.
- h. Setting the tools.
- i. Adjusting the stroke.
- j. The feed mechanism.
- k. The indexes.
- l. Danger points.

Outline for the Emery Wheel.

- a. Uses and sizes.
- b. Cleaning and oiling.
- c. Various types.
- d. Wet and dry wheels.
- e. Composition of the wheel.
- f. How the wheel cuts.
- g. Care of the wheel.
- h. Dressing the wheel.
- i. Speed of the wheel.
- j. How to hold the tool when grinding.
- k. Danger points.

CHAIRMAN SHELDON: I think we better have the discussion of this phase of the paper at the present time. I might say that this phase is very important. I do not know how many times we are asked "How much does it cost?" Sometimes one says, "I do not know." We do know. We get a report and know absolutely to a penny the cost of everything. If someone will tell me how valuable to a firm four or five good foremen are, I might be able to figure a little bit more definitely as to the value. There are so many intangibles that it is almost impossible to figure to a penny and still if it comes to the actual expense of maintaining a school; the actual money paid out; the actual money received, that, I presume, we can fix, to what extent that is desirable, to what extent it is going to be of any value. We would be very glad to see extended discussion on this subject.

A DELEGATE: In regard to an apprentice completing the course, I do not believe you have considered the fact that some of the apprentices who drop out are increasing your cost of teaching these apprentices; also, the factor of the number of apprentices who stay with the same corporation after the course is completed.

MR. CAREY: That has been taken into consideration to this extent: That among the member-companies represented on the committee there is a marked effort to eliminate as soon as possible those who are undesirable so that the turnover or, rather, the loss is quite marked during the first few months; very small during the last few and virtually all stick after a considerable

length of time; because the company will pay the men as much as they could get on the outside, consequently, there is little incentive to leave. Does that answer the question?

A DELEGATE: Yes.

MR. C. E. SHAW: I want to find out how you get \$1825.00 on page 42. In your conclusion, analysis: "A net investment of \$1825.00" which you receive. The very last paragraph. Some of it at the top of page 42.

DELEGATE: It is a difference between what the company pays and production.

MR. L. L. PARK (American Locomotive Co.): I wonder, in your summing up as to the return to the company, whether such a conclusion ought not to make some comparison, between results which the company should obtain from training an apprentice and the man whom they may take in from the outside and give a short period of training of perhaps a month. The attitude of many companies has been that it did not pay to train apprentices because in a short time they could take a man from the gate who had no special qualifications and break him in to do the work on which they would receive the same amount of return as they now receive from an apprentice whom they have taken four years to train. Naturally, the conclusion would be that if that be true, if the company can get the same return on an investment of a small amount of money in a month's time, have they not lost then the amount of money which they have expended in training an apprentice?

MR. SHOUP (Westinghouse Electric Co.): In this connection suppose we consider the case of a graduate apprentice:—We send notice to all concerned that there is available a trained man,—the product of the training department. Upon receipt of this information, some superintendent replies that he will use the man at a certain rate. Now suppose the kind of work he has available is not of the high grade of which the man is capable. Much less training would have been sufficient for the job. Is it good business to place highly trained men in that way? By no means. The man is overtrained for that job and should be placed on the grade of work of which he is capable. Make the training fit the needs and supply the jobs that require little training with lesser trained men. But remember that it is more unwise to

undertrain than to overtrain. Undertraining results in bad workmanship, expense, lack of progress and general dissatisfaction. Overtraining at least provides for expansion and progress. Our experience is that broader training is still in great demand, although we have specialized jobs for which lesser training is sufficient.

MR. PARK: I was not commenting so much upon the need of apprenticeship as I was upon this matter of finance. In other words, what is our object in figuring the return on apprenticeship if we cannot either get something definite or else get at the real reason why we train apprentices. We train apprentices not so much to get immediate return from their services as we do to get ultimate return.

I think that there is no question in our minds but what apprenticeship pays and that it, perhaps, pays more fully than has been shown here, but I believe that the real foundation of apprenticeship ought to consider more fully the ultimate object.

The criticism which a great many have for an apprenticeship course lies largely in the fact of competition; that before the young men are fully trained, and after they are fully trained there are many small concerns which are able to offer them an immediate inducement, which causes them to leave the company. I think that what the gentleman from Niagara Falls said is worthy of our thought; that there are many who come in and stay for a while and the company loses a great deal of the money in those who are only partly trained when they leave its employ.

RUSSELL C. LOWELL (Vocational Director, Indianapolis Public Schools): The remarks of the last speaker bring to mind one thing which I believe is coming to the front in the minds of directors more now than ever before, and that is, that their individual losses are not things that must be accounted too seriously. You have trained the apprentices for the industry and, therefore, have helped the industry. So I do not believe the employers are going to worry excessively over that loss of apprentices after they are trained.

I am reminded also to call to your minds something that took place in the discussion this morning in regard to selection of employees. I believe that because of the loss during the first three to six months in the apprentice system—the public

schools will gradually be asked, I might say, allowed, to help select those apprentices in the beginning by means of data which they are gradually accumulating regarding these prospective apprentices. Of course, that accumulation of data is going to become more and more accurate though it is defective now. By means of these data you will be able to apply certain tests. I believe in trade tests. I know the psychological tests in given schools show that we can do one thing more effectively. While we cannot tell Johnny at what he can succeed we can tell him very generally what he cannot succeed at; we can find out his aptitudes and his incentives. The boy who is not a machinist should not get a course for a machinist.

The experiment work being done in Pittsburgh, Providence, and several other cities in a cooperative course shows in a general way how selection may be made. In these cities the boys who had made good—as far as effort was concerned—in the school were put for two months in a shop outside of school influences for a trial period before they could enter the cooperative apprenticeship course. The plan worked very nicely. Out of two groups of approximately thirty each there were two in each group who finally proved unsuccessful as apprentices. They had to select thirty to get twenty-eight successful apprentices; they had to interview between forty-five and fifty and let fifteen or twenty go. They did not test their apprentices at that time as thoroughly as they should. I believe a testing period of that sort at which the boys are watched pretty carefully should cut down the turn over, and the consulting, and that aptitude tests given under difficulties would also help materially.

To have apprentices drop out during the early periods of the course is an annoyance to one responsible for training, and no doubt we all select on the basis, along with other things, of the candidate's probability of completing his training. But when apprentices do drop out, they do not necessarily represent a financial loss. This is clearly shown by the consideration of a specific case:

We ordinarily pay apprentices about two-thirds as much as they could get on regular work; e. g., if they can command 30c an hour in the market, we pay them about 20c. Then the apprentice is receiving \$1.60 a day as against a possible \$2.40, the difference being \$.80. Now if we depreciate this \$.80 by 50 per

cent on account of other factors, we still have a margin of \$.40 a day that is due the apprentice in instruction.

Now if the apprentice leaves the training course at any time during the first, second, or third year, I believe, from the comparison of earnings, that he has paid his own way up to the quitting time and owes the company nothing.

MR. PARK: I agree thoroughly with all that and I hope this will not be assumed to be a debate between the Westinghouse and some other concern. I believe that it can be shown in many cases that apprenticeship courses pay for themselves within the time of apprenticeship. I believe that no study of the economics of apprenticeship, no complete study, can be made without determining the laws which govern the fixing of the number of apprentices we have. In most cases we are allowed one apprentice to every five journeymen; but, as a matter of fact, if we figure in our whole organization, we find that the number of apprentices is barely two per cent of our larger industrial organizations, and that in small industries it is almost zero and many concerns have no apprentices whatever.

Now, what fixes the number and what is the law that governs the matter of return? If an apprenticeship pays for itself, what is the law that governs the fixing of the number of apprentices in a concern? I believe that if we get into that phase of the subject we find there are other elements which enter in the question of cost and however much we may figure it pays, there will be certain people who are not yet convinced that it will be a paying investment for them to start an apprentice course.

MR. E. G. ALLEN (Cass High School, Detroit): It seems to me that an apprenticeship should be more than a time serving proposition. Tradition says that we should serve from four to seven years to learn a trade, and, in many cases, putting in time has meant getting the rating as a journeyman. The time has come when we should analyze the trades and occupations, so that the necessary technical knowledge and practical skill could be determined within reasonable limits.

It has been our experience that by far the greater majority of boys will complete an apprenticeship if they are given a reasonable opportunity to acquire the knowledge and experience for which they have been apprenticed. Making the changes in work

and the increase in pay depend wholly upon the time spent, is to kill the interest of the ambitious apprentice and to finally force him to look for another job, leaving only the slow plodding boy to serve out his time.

For example, if we consider that the average boy can cover a machinist's apprenticeship in four years, the work could be divided into eight divisions, each covering what should be accomplished in six months. When a boy can actually do the work outlined, he should be given the work in the next division, together with any added compensation that goes with it. This makes it possible to start apprentices on an equal footing. The boy who has ability and has had schooling or previous training, will be able to accomplish the required work in a much shorter time. I believe that the possibility of shortening the time of apprenticeship will hold practically all the boys until they become journeymen.

Until some such arrangement is made, the employer must expect to lose his brightest and most ambitious apprentices just as soon as they become aware of the fact that they are doing work above their grade and compensation.

MR. SHAW: I want to ask a question. First of all, I think there is one item under "What the Company Pays" that has not been included: Is the expense of training a loss or a profit to the company, due to the fact that the facilities are not operated up to the capacity as they are when same facilities are used by experienced men?

MR. CAREY (Interrupting): That is covered in Item d.

MR. SHAW: That is different, in earning capacity, but does it also include loss or profit?

MR. CAREY: Earning capacity of machines.

MR. SHAW: Are you speaking from a cost viewpoint?

MR. CAREY: Production viewpoint.

MR. SHAW: There is also a loss or profit in all production.

MR. CAREY: That is intended to be included in that figure.

MR. SHAW: The second point is the intangible proposition of which Mr. Sheldon spoke, the value of the good will of those who are trained by your own organization as compared with those whom you pick up from the outside.

Our company is peculiarly situated so we appreciate that feature particularly during the time of which Mr. Sheldon speaks.

Boys who have been trained in your own shop and who understand your policies and ways of doing are an asset and have a value to the company in times of difficulty that men picked up from the outside and trained elsewhere with no particular place to tie to never have. Is there an economical justification for paying apprentices less money during their course of training than he could get at the prevailing market rate?

MR. CAREY: I might say that at the South Philadelphia works of the Westinghouse Electric Company, apprentices are paid a fixed rate plus a bonus. We shall say that the boy is in his third year and that he is getting forty cents per hour on a forty-eight hour basis or \$19.20 a week; that during a given week he has performed piece work, to the sum of \$39.20. His piece work excess would be \$20.00 of which he gets half, or his pay for the week would be \$29.20.

The underlying idea is that if you have an established day rate only, there is no incentive to speed up production. On the other hand, we are paying in the neighborhood six dollars per week per boy for exceedingly high class supervision, which he could not get outside of the apprenticeship course, and we tell the boys that they will receive one half of their piece work excess due to the extra supervision.

MR. SHAW: It costs something to break a man in in any job in a commercial or industrial organization. If you hire a man in a straight production shop and break him in, it might cost in some cases two hundred dollars; but you never think of starting that man at less than the market price.

MR. SHOUP: We take it for granted that men are paid in wages what they are worth to an industry. But suppose we were to pay apprentices in wages according to their production work and in addition give them four to six hours' class room instruction a week at a certain cost per hour, and also the additional instruction supervision in the shop mentioned by Mr. Carey. Would we not then be paying them wages in full and adding many expensive advantages besides? This would be violating a fundamental economic principal and would cause disaster; for if it were done with one group of men, all other men would ask for like advantages and would want to spend several hours a week in a class room at full pay.

MR. SHAW: The answer to that is, what will it cost to "break

in" a man compared with what it will cost to train a man scientifically. It does cost to break in a man in any job regardless of the machine.

MR. SHOUP: A part of an apprentice's pay is received in his envelope, the remainder in training, the total earnings being cash so much, plus training. We try to have every apprentice understand from the start that his training is costing him the difference.

MR. FRANKLIN T. JONES (Warner & Swazey Co.): This matter of cost is a touchy one and I imagine that among you gentlemen here most of us know a good deal more about it than we are willing to talk about in company. There are also a large number of items about which we know very little. One item which has been very carefully avoided today is the question of the overhead. Overhead is charged against every hour that every man works in a shop.

Now, is it right that the overhead of the ordinary workman be also charged against the apprentice? If so, you all know that it makes the educating of apprentices an extremely expensive problem.

The apprentice never becomes a producer in the same sense as the ordinary man. If you have a lathe hand who has worked for a number of years, or even let's hope for the figure of thirty years with which the reports deals, that man has been doing approximately one job in all that time. Up to a certain point he has continued to improve in speed. Up to a certain point he improved in skill. Later on, he practically remains stationary in speed and stationary in skill, while as he becomes older, he may recede in speed but probably would remain stationary in skill. The boy is taken into the drill press department say and is there for three months. Afterward he may go to the planer and stay there for three months more and after that he may go to some other department and stay for six months. Now, three months in a department on a single machine would probably make him skillful on that machine, but it is not right in the education of any boy, as we all know, to keep him on a single machine in a department. In any organization where apprentices are trained men will make sure an apprentice gets every variety of work he is capable of doing during the period of his stay in that department. In all that time he is below production. If standing production is 100 per cent, he may produce from sixty to eighty per

cent in all that time. Perhaps, he may not get up to production until the latter years of his apprenticeship; possibly making one hundred per cent for a portion of his last two years.

In his lower rate of pay the apprentice is asked to stand only a part of the expense of his education and he sees that it is a perfectly fair proposition that he should be paid a rate lower than the rate of the man who expects to become a producer inside the department. Apprentices do not all intend to stay with an industry. I do not believe that the machinist apprentices learn the machinist's trade for the sake of practicing the machinist trade all their lives. They look at it as an opportunity to get in to some line of manufacturing on their own hook. If you will look at the heads of machine shops the country over, you will find an astonishingly large number of them have been apprentices.

CHAIRMAN SHELDON: We have with us Mr. L. W. Gill of the Department of Labor, Canada, and we would be glad to hear from Mr. Gill.

MR. GILL: Mr. Chairman and Gentlemen, I do not propose to discuss the report before the meeting, for the reason that I am here only as a guest. I thought, however, that it might be of interest to you to hear something of conditions in Canada and what we are doing in the line of apprenticeship.

Our problems in relation to labor and apprenticeship in Canada are much the same as they are in the United States. I am, therefore, much interested in the discussion which has taken place at this meeting, especially the remarks of the last two or three speakers, one of whom pointed out the necessity for having some incentive for the boy who is serving his apprenticeship.

If we consider the question of apprenticeship on a fundamental basis, I think it will be obvious to every one that young people must be trained for occupations in industries somehow and the question to be considered is, how this is to be done? As there is no alternative, the question of cost, which is very important, must be faced. Some of the difficulties incidental to the training of young people for specific occupations are appreciated by some employers. Because of the cost it has become the custom of some employers to steal apprentices away from their neighbors in the same industry rather than train their own apprentices. No doubt this condition exists in the United States as well as in Canada. On the other hand, there is a type of

employer who will employ men who are not trained. Such a man may make a success of his business for some time but sooner or later he will find himself in difficulties. In any case he will never be a leader in his own line of business.

In some of our industrial centers in Canada a special arrangement has been made with the technical schools whereby apprentices spend part of their time in the school and part at work. We also have special apprenticeship courses conducted by the industries themselves. The tendency at the present time is toward cooperation between the industries and our vocational schools. In the city of Hamilton, for instance, there are some ten or fifteen of the large industries which have special arrangements with the technical school whereby their apprentices attend the vocational school on a part-time basis.

The movement toward cooperation between the industry and the vocational school and between the employer and the employee has grown considerably within the past few years. In this connection I may mention that quite a large number of joint industrial councils have been organized on which the employees are represented equally with the employers. Such councils settle all disputes between the employer and the employee. These joint industrial councils include in some cases only one special branch of an industrial organization. Sometimes they include the whole of a single organization, and in some instances they are extended to include a whole industry. For example, we have a National Joint Industrial Council in Canada, which includes all the building trades and construction industries. This particular Joint Council recently met in conference and worked out a national scheme for apprenticeship training in the building industries. I have here with me a copy of the report of this conference at which this scheme was formulated. My intention was to have a sufficient number of copies of this report for distribution, but they have not arrived. However, if any of you are interested you can secure a copy by writing to the Department of Labor, Ottawa, and asking for "Bulletin No. 3, Industrial Relation Series."

Before concluding, I will give you a brief outline of the apprenticeship scheme formulated by the Council referred to. First of all, there is to be organized a national council with advisory functions only. In addition to this national council there are to be local councils which will be composed of one-half of employees

in the industry and one-half of employers, one from each branch of the trade in each group. These two groups, together with an architect and an industrial engineer, the latter two being selected by the former, will constitute the local council. The whole apprenticeship system in the locality will be under the control of this local council.

At the conference referred to a standard form of indenture was adopted. I will take the liberty of reading one or two articles from this standard form of indenture:—

"Article 9. The Third Party hereby agrees to permit the Second Party, without reducing its wages, to attend such vocational classes as may be designated by the Local Council and the Second Party agrees to attend such classes, amounting in time to not less than ——— hours per year for the first two years and not less than ——— per year for the remaining years, and to submit to such annual examination as may be prescribed by said Council. The Second Party further agrees that advancement with respect to standing in the trade and rate of pay shall depend on the passing of such annual examinations.

"Article 10. The Third Party agrees to pay the Second Party as remuneration for services rendered during the term of apprenticeship, the amounts of money specified below, said money to be paid on the regular pay days; during the period of first year standing ——— per cent of the minimum wage of a journeyman in the trade; during the period of second year standing ——— per cent of said minimum wage; during the period of third year standing ——— per cent of said minimum wage; and during the period of fourth year standing ——— per cent of minimum wage; in addition to the above amounts a bonus of an amount equal to ——— per cent of the amount of money paid to the Second Party during the last six months of his apprenticeship, said bonus to be paid after the passing of the final examination.

In this indenture the minimum time set down for an apprenticeship is four years. In the case of some of the trades it normally requires five years. The apprentice is required to attend a vocational school, and his apprenticeship standing depends on his passing such annual examinations as may be arranged by the Local Council.

Section II—Steel and Iron and Plant Maintenance

CHAIRMAN SHELDON: Mr. A. J. Beatty will present Section two on Steel and Iron and Plant Maintenance.

A. J. BEATTY (American Rolling Mill Co.): Mr. Chairman and Gentlemen, I am under considerable embarrassment in being called upon to officiate at this discussion. Mr. Berry, the chairman of this section, happens to be a member of our organization but I had made no arrangement with him to lead this discussion.

I think that the whole question of apprenticeship has been so thoroughly covered here in the discussion so far that we need take but very little time in the particular phase of apprenticeship which relates to the steel business. The particular task of this section of the committee is with the Maintenance Division in the steel plant. The problem of maintaining apprenticeship courses in a steel plant is a very much of an uphill problem, for this reason; in a steel plant there are so many ways by which an apprentice can make much more money than he can by going into an apprenticeship that it is very, very difficult to induce boys to take up apprenticeships and it is even more difficult to keep them after they have once got in.

The jobs upon which an apprentice must work in Maintenance shops cannot be definitely scheduled as they can in a regular production machine shop and this makes the operation of apprentice courses very much more difficult than in an ordinary machine shop. In the bulletin, which is in your hands, is a list of the various trades or jobs which are ordinarily found in the Maintenance Division of a steel mill, but very few of those are now represented by regular trade apprenticeships. Very few of the trades mentioned in the lower list such as carpenter, bricklayer, pipe fitter, and rigger have yet been reduced to systematic apprenticeship. In our own plant we have some apprentice carpenters, some apprentice bricklayers, some blacksmiths, a few roll turners, some electricians, but for the most part the men working in these departments are not trained through apprenticeships at all; they simply get into those jobs by promotion from the labor department. We have not yet worked out apprentice courses in our plants for most of these trades. I do not know how it can be done for some jobs, for instance, the roller. You know, if you are familiar with steel mill practice at all, that the rollers are the highest priced men in industry. But the kind of the trade or job training adapted to those fellows is difficult to find. Just how you are going to organize apprentice courses for many of these jobs I do not know. I would like to be enlightened on that point.

SECTION II

STEEL AND IRON AND PLANT MAINTENANCE

Section I—Introduction

Duties of Committee

The problem assigned your sub-committee on trade apprenticeship, Section II—Steel and Iron and Plant Maintenance is:

- a. To define the field for apprentice courses.
- b. To study the possible extension of apprenticeship courses,
- c. To outline typical courses.

Scope and Purpose of Report

The purpose of this report is to furnish any possible help or information and offer suggestions to those who might be making a further study of the apprenticeship training field with the view of widening out their training courses to include other trades.

Upon analyzing the duties of the committee, it was found that we have three distinct and separate problems to consider, each depending, for solution, upon the one next preceding: firstly, to determine just what lines of work come under apprentice training, upon which depends the solution of the second problem, to study the possible extension of such courses, and lastly, to outline typical courses.

Method of Gathering Data

In the preparation of this report information has been obtained by means of questionnaires, personal visits to plants by committee members, house organs, and trade apprenticeship pamphlets published by different companies.

Section II—To Define the Field for Apprenticeship Courses

Our first duty to define the field for apprenticeship courses might be stated in these words, "To fix the bounds of the field for apprenticeship courses." This, no doubt, is a big undertaking, but as the general scheme of apprentice training is becoming more and more universally standardized from year to year the task unquestionably should not be as difficult as it might have been in the earlier activities of the Association. The demand for

more highly skilled and better trained workmen has become more urgent from time to time. Industry has come to recognize the value of the trained man. The value of apprentice training has been brought to the attention of executives so often that practically every leader in a progressive organization has come to ask himself, "What more can be done to raise the standard of workmanship and increase the efficiency of the individual workman?" At a time when apprentice training demands such an important place in industry the opportunity surely presents itself to attempt some classification of the different lines of work as found in the steel industry, as a means of defining the field for apprentice training.

As far as we are concerned, it is necessary to divide the whole field into only two classes—namely, that into which apprentice training falls and secondly that class under which might come the other schemes of training. In order to make this classification your committee has endeavored to devise some form of a "measuring stick," so to speak, by which any job or line of work might be measured and the class determined under which it should come. Consequently we submit the following definition of a "trade" and define the field for apprentice training according to the definition. By so doing we hope to establish definite bounds to the field and thereby exclude all other training that does not rightfully come under trades apprenticeship.

Definition of Trade

A trade is an occupation requiring a comparatively long period of time (usually about four years) to acquire the necessary skill, resourcefulness, initiative, experience and technical knowledge to successfully carry on a given line of work involving a number of closely related jobs or operations.

On page 220 of last year's Annual Proceedings may be found another definition which very satisfactorily covers the ground, as follows: "A trade from the point of view of apprenticeship is a skilled occupation requiring a broad knowledge and experience, and usually a relatively long period of training. It can be contrasted with a special occupation which requires efficiency in one particular process only. In other words, a trade implies a mastery of a number of related processes and which may constitute

a separate division of an industry. Examples of a trade may be cited as machinist, plumber, custom tailor, watchmaker, etc."

Section III—To Study the Possible Extension of Apprenticeship Courses

In the steel industry may be found the following trades, defined as such by the definition of trade as given in Section II of this report.

Machinist	Electrician
Toolmaker	Repairman
Patternmaker	Construction
Wood	Motor Inspector
Metal	Carpenter
Molder	Bricklayer
Brass	Millwright
Iron	
Steel	
Malleable	
Rigger	Steamfitter
Blacksmith	Steam Engineer
Hammersmith	Auto Mechanic
Tinsmith	Roll Turner
Plumber	Open Hearth Melter
	Roller

The replies to our questionnaires show a great variation in the apprentice training work that is being done by the different companies. The trades for which apprenticeship courses are fairly universally organized are:

Machinist	Molder
Toolmaker	Electrician
Patternmaker	Repairman
Wood	

By comparing the two above lists we have the following trades for which but few companies have developed apprenticeship courses:

Patternmaker	Electrician
Metal	Electric Construction
Carpenter	Motor Inspector
Bricklayer	Plumber
Millwright	Steamfitter
Rigger	Steam Engineer
Blacksmith	Auto Mechanic
Hammersmith	Roll Turner
Tinsmith	Open Hearth Melter
	Roller

No doubt the demand for apprentice training has been more urgent in certain trades or they would not have been organized first. Unquestionably the number employed in those certain trades far exceeds the number employed in all the other trades combined. But nevertheless it is evident that apprentice training work in the steel industry has only been begun and an almost unlimited field remains to be developed.

Due to world-wide industrial conditions that have existed for the past several months, apprentice training work has received more or less of a set back. No reports have been received from companies attempting to organize training work in other trades. However, no company has reported the discontinuation of the work already organized.

Section IV—To Outline Typical Courses

Before taking up the regular assignment of this section it might be well to first mention the subjects taught in connection with the organized apprenticeship courses as listed in Section III of this report. Courses vary from just the trade mathematics and drawing required on the job to very liberal courses of training. The following list contains all the subjects reported as being taught in apprentice training work; no course, however, contains all these subjects.

Mathematics	Physics
Drawing	Safety First
Equipment	Processes
English	Metallurgy
Current Events	Electricity
Civics	Economics
Shop Practice	Hygiene
Shop Lectures	

In outlining typical courses it is not the policy of the committee to attempt to outline in detail subjects that should be taught in the respective trades—only the subjects will be mentioned.

There are certain subjects which bear directly upon the trade itself and which enable the apprentice to do his job more intelligently. There are certain other subjects which bear little direct relation to the trade but which show a marked influence upon the man's value as a company employe.

A complete course for apprentices should offer the necessary experience on the various jobs or operations, involved in the respective trades and scheduled in some natural sequence, to develop skill, resourcefulness and initiative, correlated with the class work required.

- (1) To impart the technical knowledge necessary on the job;
- (2) To make the apprentice a more loyal employe to his company, and
- (3) A better citizen in the community.

Mathematics, drawing, and trade lectures, scheduled to meet the particular requirements of the respective trades are absolutely essential to enable the apprentice to do his job more efficiently and intelligently and are considered an important part of any training program. English, Civics, Industrial History, Economics, and Hygiene, undoubtedly do not so directly concern his ability as a workman, but are becoming to be recognized more and more a very essential part of any complete apprentice training course.

English

Practice in reading articles from trade journals and giving orally or in written form the contents of the article is very good training for the apprentice in grasping the meaning from a printed page and expressing it clearly in simple English.

Industrial History and Economics

A study of Industrial History will show that every labor-saving device was opposed by the working people, but on the other hand will show that all such machines have proven a big benefit to everybody concerned—labor as well as capital. Increase production and the earning power of the individual work-

man increases. Such a course will necessitate a study of Elementary Economics, an understanding of the laws and principles of Economics and undoubtedly will do much to relieve the present industrial unrest and radicalism.

Civics

Very few of the working class have a clear understanding of our form of Government, of the relation and obligations of the individual citizen to his community and to his country. A course in Elementary Civics is much needed and unquestionably would do much to make more loyal supporters of our form of Government and prevent many from drifting under the influence of agitators' Bolsheviki.

Hygiene

A man to be an efficient workman must be in good health. A surprisingly large number of workmen are very careless and irregular in the matters pertaining to health. A course in Hygiene will bring them to realize the importance of looking after their physical condition and save many hours of inefficient work.

The following outline sent in by a member company shows the subjects taught in their training course for machinists and toolmakers and illustrates very plainly the importance some companies put upon those subjects which some might possibly consider foreign to trades training.

		Monday	Tuesday	Wednesday	Thursday	Friday
1st year	1st Term	Math.	English	Drawing	Math.	Metallurgy
	2nd Term	Math.	English	Drawing	Math.	Physics
2nd Year	1st Term	Math.	English	Drawing	Math.	Electricity
	2nd Term	Math.	Economics		Math.	Electricity
3rd Year	1st Term	Math.	Economics		Math.	Civics
	2nd Term	Math.	Civics		Math.	Metallurgy
4th Year	1st Term	Math.			Math.	
	2nd Term	Math.			Math.	

The requirements of apprentice training courses and the conditions under which they operate, even in the same trade, are so widely different in the shops of different companies that no de-

tailed outline of subjects can be given which will serve all concerns equally as well. Courses must be designed by the apprentice supervisor to meet the individual requirements. The matter of determining the subjects which bear directly upon the respective trades offers no particular difficulty. The real task comes in outlining those subjects in detail and arranging the material in such a way as to meet the requirements of that particular training course.

Mathematics, drawing and shop sketching, shop practice and trade lecture courses are fairly universally organized and outlines of such courses are readily obtainable from most any member company. Industrial History, Economics, Civics, English, and Hygiene are taught by only a comparatively few concerns as this class of work is still in the experimental stage. Consequently there is not much in the line of information or outlines to be secured on those particular subjects.

Section V—Conclusions

1. A comparatively large number of trades are represented in the steel industry.
2. Very few of these trades are universally organized.
3. The unorganized field is large and offers unlimited opportunities for training activities.
4. From the questionnaires it is well agreed that there are certain subjects in addition to those which directly concern a trade which should be included in a complete training course for apprentices—namely, English, Civics, Industrial History, Economics, and Hygiene.
5. Those subjects which directly concern the trades are well standardized and fairly universally organized.
6. Very little has been done to outline courses in English, Industrial History, Civics, Economics, and Hygiene.
7. It is up to each one concerned in this work to get busy in organizing these courses and not wait for the other fellow to make the start.

CHAIRMAN: Mr. Wakefield, we have not heard anything from you on this subject.

P. E. WAKEFIELD (Carnegie Steel Company) : The subject of Apprentice Training has been covered so thoroughly that I am sure I cannot contribute anything to the subject this afternoon. The member-companies of this Association, who are training apprentices, have been in the work for some time and records of what they have done are a part of the proceedings of the National Association, available to any one who cares to consult them.

At the Duquesne Works of the Carnegie Steel Company, we have found much the same situation that Dr. Beatty has found at the works of the American Rolling Mill Company. We have a number of employes who are able to make a very good quality of steel and who receive good pay for doing so, and all this they are able to do without the benefit of any formal training or instruction. The same thing is true of our mechanics. The brick-layer, for example, can lay a lot of brick, do a good job and earn good pay without knowing very much about mathematics or economics or any of the other subjects that are listed in this report.

I do not like to appear to be taking an extreme position with regard to this subject but I am almost convinced that in industrial education work we have been influenced too much by principles and precedents inherited from our Public School systems of education. We have gone too far along the line of teaching academic subjects that do not apply directly to industrial vocations and that are not valuable either directly or indirectly to the average workman engaged in those vocations.

Instead of basing our courses of industrial training on the general assumption that mathematics, drawing, economics, English, etc., are useful to men engaged in industrial occupations, I am convinced that we should abandon this assumption entirely and make a new start. At Duquesne, we propose to make a survey which will consist of the preparation of a series of job specifications covering all of our classified occupations. For each of these occupations we shall ascertain what duties are involved and what special knowledge is required. From this data we shall determine whether there is any special instruction that can be given to the men engaged in these occupations that will be useful to them in their daily work. If there is no such instruction, we will abandon every thought of training them. If there is such instruction we will organize the instruction material in the best

and most practical form and give it to the men in whatever manner appears to be most suitable. Beyond this, I am sure that industrial educational work is profitable neither to the company nor to its employees.

SECTION III—RAILROADS

The Committee on Trade Apprenticeship realizes that much is contained in former reports on apprenticeship which may now be considered as standard. The special report No. 1, "Trade Apprenticeship Schools," issued by the Association, is an excellent guide for those wishing to become acquainted with the best practice for training apprentices. A perusal of special report No. 1 together with the reports and discussions submitted during former conventions will furnish valuable information for those wishing to familiarize themselves with methods of training.

As stated in previous reports, Trade Apprenticeship embodies two distinct phases of work, namely, school instruction, and shop instruction. The reports for the years 1912 to 1916 inclusive cover principally the school instruction and place special emphasis on this phase of the work. The report for 1916 gives a detailed list of subjects that should be taught in trade apprenticeship schools. This outline, with minor changes to suit local conditions, can readily be adapted to suit the needs of those wishing to establish apprentice training courses. The report for 1917 emphasizes the importance of shop instruction and gives shop schedules which can be used as a guide in making a program of work for apprentices to follow in the shop.

The period from 1912 to 1917 shows a healthy growth in the number of apprentices receiving instruction in railroad shops. During the period of Government control of railroads, many changes have taken place in the railroad field; in many cases the rules adopted have been such that some companies were compelled to discontinue their school work. The shop training has been continued, but with the present necessity for reduction of working forces many graduate apprentices have been laid off and the results of training thereby nullified. Since the return of the roads to their owners there has been an attempt to return to normal conditions. However, the rules imposed on the railroads require them to recognize seniority in making reduction in forces. Since an apprentice is not given seniority until he graduates, it

is obvious that the first men to be laid off during the recent business depression consisted largely of recent graduate apprentices. There is also a rule which limits the number of apprentices to one apprentice for every five mechanics. When forces are reduced apprentices also must be laid off and training which should be a continuous process is greatly interfered with. Rates paid apprentices have been raised from 300 to 400 per cent over those of 1916, so that it is imperative that every minute of an apprentice's time is utilized on productive work. Where a sufficient number of shop instructors were employed it was possible for apprentices to be placed continuously on productive work, enabling the cost of training to be kept at a minimum.

With the abrogation of the National Agreement and a return to normal conditions in which each road can formulate its own rules for dealing with its employees, the training of apprentices will be given a new impetus. The need of trained men after business returns to normal will be greater than ever and a program of training, based on successful practice of the past and which could be adopted by the various roads may take the following form:

1. *Object:* To train in the briefest possible time, carefully selected young men as all-around mechanics for the purpose of supplying skilled workmen for future needs, with the expectation that those capable of advancement will reveal their ability and be placed in positions of responsibility for which they are qualified.

2. *Personnel of Organization:* A competent person familiar with the aims, standards and methods of his company should be given charge of the training of apprentices. He should be clothed with sufficient authority and be given the necessary assistance to conduct thorough shop training and in close connection therewith should develop a scheme of mental training giving instruction in the technical features of the several trades involved.

3. *Shop Instruction:* A sufficient number of machines should be set aside for the exclusive use of apprentices so that definite shop schedules can be followed, giving apprentices as large a variety of work as possible. The apprentice will be taught the operation of each machine by the Shop Instructor.

4. *School Instruction:* The subject matter taught in the apprentice school should supply the particular requirements of each

trade and should be based primarily on company standards. Academic text books should be avoided and the work made intensely practical. Drawing courses should follow regular drafting room practice.

5. *Selection of Apprentice-applicants:* Apprentices should be accepted only after a careful examination and an interview by the person in charge of training scheme or some responsible person designated by him.

6. *Probationary Period:* There should be a probationary or trial period for apprentices of at least six months before apprentices are finally accepted; this period to apply to the apprentice term if the apprentice is finally accepted. Before the end of the probationary period the boy's record should be passed upon by the foreman in charge of the apprentice, the shop superintendent or some responsible person designated by him, and the person in charge of the training scheme; this in order to determine whether or not the apprentice should be continued in the service.

7. *Number of Apprentices in Training:* The number of apprentices in training should be based on the average needs of the company for trained men. A definite number should be hired regularly each month rather than hiring a large number at one time and then hiring none for several months.

8. *Records:* Continuous records of the standing of apprentices in both the schools and the shops should be kept.

9. *Opportunity for Advancement:* Rewards in the form of additional training, both mental and mechanical should be given apprentices of the highest standing. This should provide for training in various departments not embodied in the schedules for regular apprentices and should give experience which will enable those receiving the training to fill positions of responsibility upon or after graduation.

10. *Retaining Apprentices After Graduation:* Suitable certificates, signed by the officials of the company, should be given graduate apprentices. Those completing the course of training should be placed on work for which they are best adapted and where they can be of greatest service to the company. Those showing exceptional ability should be placed in positions of responsibility.

With the resumption of normal conditions after business be-

gins to pick up there will be an increased demand for skilled mechanics and for men with leadership qualities. Graduate apprentices will be the first to be drawn upon for filling positions of responsibility. The needs for an apprentice course will become more evident and will be the only practical method for filling the depleted ranks of the working forces in railroad shops. It is believed that the above program if carried out by the roads will furnish the skilled men always so badly needed in railroad shops.

ADDRESS ON EMPLOYE REPRESENTATION IN MANAGEMENT

TUESDAY EVENING—JUNE 7, 1921

PRESIDENT KINCAID, Presiding

PRESIDENT KINCAID: We are all very fortunate this evening to have with us a gentleman who is a pioneer in personnel work in industry, a man who enjoys the confidence of the corporation with which he is connected and those with whom he works.

I take pleasure in introducing Mr. Richard H. Rice, of the Lynn Works of the General Electric Company, who will speak to us on "Employee Representation in Management."

MR. RICHARD H. RICE: Mr. Chairman and gentlemen, I believe employee representation represents the first advance in the science of human relationship in industry that has been made within my recollection; and as it seems to me, not only from my experience, but from the study that I have made of other plants, that it is a genuine success and a genuine advance, I feel it is the duty of everyone who is working under such a system to do everything possible to disseminate knowledge in regard to the plan amongst those who have to do with industrial relations, in order that it may be understood, that it may be used, and in order that it may be developed, because certainly at this stage of the game no one connected with the development of such a plan would for an instant regard it as a finished, fully developed plan.

The need for better means of communication, contact, education, information and dealing between employes and management hardly needs to be discussed. It is universally recognized that the difficulties in the human relation arise from the difficulty of securing proper contact, finding men among the employes who are recognized leaders capable of speaking authoritatively for the

employees, men with whom we can discuss our problems, men who can give us the viewpoint of the employees themselves.

Labor unionism is an effort arising from the employees' side to provide such points of contact. Labor unionism arises from the fact that the relations between employees and management in the past have not been adequate; it arises from the fact that when an employer of labor did the wrong thing, there was nothing to be done on the part of the employees except to organize, except to secure means of contact that would overcome injustice. Labor unionism has its faults; it has its very glaring faults, and in so far as it has faults I am opposed to it; it also has positive merits, and in so far as it has positive merits I am in favor of it. I am not operating a plan of representation at the Lynn Works for the purpose of opposing union labor. I have not installed such a plan, and I am not operating it under any circumstances as a means of breaking up labor unions. I believe that labor unions ought to continue to exist, and will continue to exist; but in so far as they interfere with just relations, fair relations, and proper relations, between employees and management, everyone connected with industry, who desires to see progress, must be against them.

In Massachusetts last year there were 384 strikes reported to our Board of Labor and Industry, and no doubt that does not represent the total of the strikes in that one state, which, as I recall it, has about ten per cent of our manufacturers within its borders. That, in itself, is an indication, a powerful indication, of the need of some improved method of conducting our relations with our employees. There are strikes that are perfectly justifiable and inevitable, and which no means of dealing with the men will prevent, because they arise from wrong conceptions, wrong ideals on the one side or the other, that only force can try out and settle. I do not think that any method of dealing in itself can eliminate strikes, but 384 strikes in one year in the little state of Massachusetts, is not an evidence of success in handling the human problem; it is largely an evidence of the need of better means of handling the human problem.

We also suffer in our factories from low production, from restricted production, from lack of interest in the job; and that is an evidence of a lack of cooperative means of dealing. I want to read you a few sentences from a letter written by a farmer, a man who is at the head of a powerful organization of farmers,

also the editor of a farm newspaper, and I think you will agree that this farmer has an excellent grasp of the problems of industry. He says, in part:

"It seems to me that the plan you have adopted holds unlimited possibilities in the way of promoting harmony and constructive interest in industrial plants. I cannot conceive how any employer, or any honest employe, could remain unresponsive to it.

"The addresses of your managers and of the representatives of your workmen indicate that each comprehends the plan, and is proceeding in confidence of its workability. This is of course the first requisite to the success of any plan of undertaking.

"I am particularly impressed by the remarks of Mr. Gilchrist, of your Committee on Routine, Procedure and Elections. In reaching the conclusion that cooperation cannot be established or maintained without a proper *state of mind*, he touched the keynote controlling all harmony in industry generally, and in the relations of all men to each other."

This is a letter issued by the farm organization to its members and is as follows:

"Every clear-thinking business man realizes that American industry and agriculture are sound at the core, and that the one requisite to restore normal activities and confidence is a proper state of mind among our people generally.

"Recognition that the state of mind of any man controls his actions is the very foundation of the activities of radicals and disturbers. It is for this reason that they attach so much importance to propaganda, and make such headway by unceasingly circulating the same. Experience has developed many masters in this line.

"Until recently, employers have abandoned this all-important field of operations—the minds and hearts of their employes—to labor organizers. I have personally witnessed the transformation of many men from a condition of open and fair-mindedness into typical union men. I know the process by which the closed mind is brought about; the suspicious and dishonest nature cultivated, and class-hatred developed. This transformation takes place in the open field of association, counsel, and cooperative interest, which, as I have stated, is usually abandoned to the walking delegate and the disciples of discord.

"The foreman is an indispensable personage in industrial

plants, but as the sole link of communication or point of contact between employer and employe, he is wholly insufficient and unsafe. He seldom promotes harmony, but frequently the reverse. Men are natural tyrants. The very nature of the foreman's duties tend to develop a tyrannical disposition, and the performance of those duties generates resentment and hostility.

"The efforts of many right-minded employers to improve the conditions of and secure a closer relationship with their employes is based upon charity. Charity is of course one of the finest attributes of human nature, but it cannot take the place of justice. When an employer understands this basic fact, and has caused his employes to understand, and has induced them to meet him on the common ground of cooperation, a great step forward is taken. When employers as a rule do this, far greater progress will have been made; but the complete solution of industrial troubles will come only when the 'plan' enters into the very spirit of industry itself, continuing to function regardless of changes in the personnel of employer or employes, and not requiring the steadying presence of some strong man whose influence ceases when his hand leaves the helm.

"The field the employers abandon or ignore is one on which they could win every battle. The poisoners of men's minds can no more prevail against the truth, and the sustained interest of the employer in his employes, than disease germs can resist the sunlight.

"I do not mean that all the damage done in the minds of workmen can be corrected at once. The radicals have been at work too long. But I do feel sure that any such contest, though temporary reverses may be met, can be finally won, if the proper understanding and spirit are employed."

I contend that letter gives a good grasp of the industrial situation and the need for some such mechanism of dealing as the plan of representation.

We have a plan of representation at Lynn Works, employing some 14,000 people in normal times; and under the same management we have a plan at the Everett Works, employing some five hundred people in iron and steel foundries, also one at Taunton, a small motor shop, with about 500 people, and one at the Windsor Works, also a motor shop with about 150 to 200 people. All of these plans were put in at about the same time—October,

November and December, 1918. The Lynn plan was put in under the auspices of the War Labor Board. A strike had been brought about in the middle of July, 1918, and the men went back to work under the orders of the War Labor Board in August. In October we received an award from the War Labor Board providing for some method of collective bargaining, and under the auspices of that Board three representatives of the management, of which I was one, met a committee of our employes, selected from the ranks of the strikers by the War Labor Board, and we proceeded, paragraph by paragraph, to make a plan of representation, that we agreed upon paragraph by paragraph, unanimously, and the first day of December, 1918, we put the plan into operation by holding our first election.

The first task confronting the members representing the employes and the management, was to adjust the wages of our plant on a basis set by the War Labor Board, involving a most difficult comparison of wages, group by group, with those already established by the War Labor Board at our Schenectady plant. It was a most difficult task, because while we had similar lines of manufacture in the two plants, the character, size and general methods of manufacture of the different pieces of apparatus are so different that it is extremely difficult to make proper comparisons.

This work was entrusted to a General Joint Committee on Adjustment, consisting of four representatives of the management and four representatives of employes, who sat continuously on the job, and the award was put into effect about the first of April, 1919, and I know that the management felt, and I am positively certain that the employes felt, that the award was a magnificent piece of work. It involved considerable increases in wage, and of course the award had to be retroactive, so that large sums of money were paid out as the result of this work, which certainly could not have been done, in my opinion, in any other way.

Since that time the plan has been in operation with ever increasing success. Our path has not always been a rosy one; for instance, in the spring of 1920 there was strong pressure brought upon the management through the employe members of the Adjustment Committee for an increase of wages, and for various other things that were not proper or permissible under the busi-

ness conditions then prevailing. Strikes were threatened continuously up to the middle of June, but the campaign for these unwarranted increases finally collapsed without the letting of any blood, except that as an incident of the contest, forty winders in one department went out and stayed out for five weeks in an unsuccessful attempt to pull out the whole plant.

Since that time industrial harmony has prevailed, with one exception. In one of our plants a strike of moulders occurred, and the moulders at the Lynn Works went out in sympathy, having previously assured the Lynn management through their representative that they had no dispute with the management that they were perfectly satisfied with their conditions, and only went out because they were ordered out by the International Officers. That strike collapsed and was called off last week without the slightest gain to the moulders. At no time did the strike of the moulders affect in any way the remaining departments of the plant, and there was no sympathy whatsoever with it in the other departments.

• To give an idea of the magnitude of the operations of such a plant, I shall read a few statistics. For instance, in the first year, when we were recovering from the disturbing effects of the strike, and when you would expect the maximum number of difficulties to arise, there were 1,201 cases brought to the attention of the representatives of the employes, of which 1,020 cases, or 85 per cent, were settled by informal conference between foreman of work and employe, either alone or assisted by one or both of the sectional representatives. One hundred and twenty, or 10 per cent of the cases, were settled in Joint Shop Committee at first trial; and I may say here that we have twenty of these Joint Shop Committees in our plant, consisting of three representatives of employes and three representatives of the management. The Shop Committee is a local affair, and it is difficult to give analogies that will not be misleading; but you might call it the Superior Court, if you wish to use the analogy of courts; whereas our General Joint Committee on Adjustment is the Supreme Court. The Superior Court, of course, has a local jurisdiction. Our Shop Committees have local jurisdiction. We divide our plant into geographical sections, and several of these sections are grouped together to make a shop, so that a Shop Committee can be constituted.

There are something like fifty-six sections, and each section, consisting of about 200 employes, on the average, is entitled to elect two representatives of employes. We group six of these sections of the representatives of the employes together, and they elect from their number three to sit on the Shop Committee. The management also appoints three members of the Shop Committee. Every committee connected with this plan in our plant is a Joint Committee, and we regard that as an absolutely vital principle.

As I have said, 120, or 10 per cent, of these cases came before the Joint Shop Committees and were settled. Nineteen more, or 1.7 per cent, came before the Joint Shop Committee, but the Joint Shop Committee could not reach a decision, and the matter was referred to the Department Head, who has a right to review the case and submit an opinion to the Shop Committee. These 19 cases were all settled in that way by reference to the Department Head, who rendered an opinion satisfactory to the Shop Committee. Twelve cases, or one per cent, were settled in the General Joint Committee on Adjustment, and twenty-eight, or 2.3 per cent of the cases, were voluntarily withdrawn by the employe at some step in the proceedings.

At the end of the year only one case was unsettled, and no case had been referred to the manager, in our plant, as the final court of appeal.

We have a provision in our employe representation plan that an unanimous decision by the Shop Committee absolutely terminates the matter. There is no power of review by the management—there is no power of review by anybody. When a Shop Committee reports an unanimous decision that is the end of the case.

In this first year, ending December 9, 1919, of those cases, seventy cases, or 46.3 per cent, were unanimous decisions, favorable to employe; there were seventy-nine, or 52.4 per cent, unanimous decisions, adverse to the employe.

We also have a provision that if the Shop Committee comes to a majority decision in favor of the employe, and the employe is satisfied with that decision, that also terminates the case. We believe that is a valuable part of our plan—it gives the employe a slight advantage, which we always want to do, because the only way to be sure you are right with the employe is to be a little more than right, and this provision guarantees that. Two cases, or 1.3

per cent, in the first year were majority decisions favorable to the employe and settled the case in that way.

After working the plan some time longer we come to the period of six months, from June, 1920, to December, 1920, which is the last period for which I have statistics. In this case, as against 139 for the first year coming before the Shop Committee, or say 70 for six months, only 36 came to the Shop Committee for these six months—just about half as many cases, so you can see the operation of the plan has diminished the difficulties; and the dissatisfaction among the employes is gradually working down, so that the number of cases coming up is quite moderate—thirty-six in six months, that gives an average of six cases per month, or approximately one a week.

Of these cases, 11 were unanimous in favor of the employe; two were majority decisions in favor of the employe; 18 were unanimous decisions adverse to employes; three cases were withdrawn by employe; and two were unfinished at the time of the report. There were no cases referred to authorities higher than the Shop Committee.

I want you to notice that the number of unfinished cases is small, because we finish these cases up quickly. Dissatisfaction grows as cases remain unsettled, and we like to be very prompt.

Now, you may ask what kind of cases these were—with what these cases have to do. In the first year 4 per cent had to do with discipline by the foreman—appeals from the discipline of the foreman to the Shop Committee; 5 per cent were cases in which employes had been laid off, they thought the wrong man had been laid off and appealed for reinstatement; 17 per cent of the cases were transfers, where the employe appealed against transfer to another department; 4 per cent were where summary discharge had been appealed against; and 59 per cent involved a question of wages; while 11 per cent were miscellaneous.

The operation of our plan for two and a half years has brought us closer and closer to the ideal relationship between employe and management;—a relationship where mutual confidence in one another exists, and where every man who has to deal with the management realizes that he can get a square deal, that nothing can stop him from getting a square deal, except his inability to show a jury composed at least of 50 per cent of his peers,—his inability to show them that he has a just case.

In the period that we have been operating this plan three cases only have gone to the management. In one case it involved the act of a foreman in discharging a girl, and the action of the foreman was confirmed; and in two cases employes were reinstated and placed in another department. No difficulty whatsoever arose as a result of these decisions.

One case is very interesting. An employe sat for a time on the General Joint Committee on Adjustment—the highest Appeals Committee we have. I instituted the plan of consulting with that Committee about various matters having to do with the policy of the plant. On one occasion I thought it wise to fix the piece work prices for a period of six months in order to give our employes confidence that the piece work would not be cut on account of high earnings. I consulted this Committee, and the Committee gave me unanimous support that they were in favor of it. I put the thing into practice. Afterwards, in confidence, this man and another member informed me they had not voted at the time this vote was taken—that they had not expressed their opinion. I told these men I felt that was in effect deceiving me, and not giving me the advice I was entitled to, and if I were a member of that Committee, under those circumstances, I should feel it my duty to resign. These men did resign. There was talk of re-electing them at the next election, but that was not done.

This man I have referred to afterwards become involved in an altercation with another employe in the plant, and knocked him down in the shop. He was tried by the Shop Committee and reinstated in another department. The employes in that department sent him to Coventry; they would not talk to him, lend him tools, or have anything to do with him, and in the course of a few weeks he left the plant of his own accord.

That is the spirit that exists in the Lynn Works today; the men are more severe than the management in those cases.

In order to operate a plan of representation and do it successfully you have got to make up your mind (and I assume, without question, because I know many manufacturers, that this is the mind of the manufacturer of America) the men are going to have an absolutely square deal and be given just treatment no matter how much it hurts; because there is no better means of bringing out injustice in the whole world than a proper plan of representation; and bringing out the injustice if it is on the side

of the management just as clearly as if it were on the side of the employees. If you have anything to cover up, and anything you do not want to let your employees know about in your dealings with them, you had better keep clear of the plan of representation; but if you believe, as I believe, that you want to put the cards on the table and tell your employees how you will treat them, and why you are treating them in certain ways, give them all the information that is necessary to put in a plan, because it is the ideal way of doing it. That is the fundamental basis you must have in your mind before you start working on the plan of representation.

Before I get to that point I will read short extracts from the reports I have recently received regarding the operation of this plan. For instance, at the Windsor Works, where we have, as I told you, 150 employees, we have received the following:

"The plan of representation was inaugurated at Windsor on October 12, 1918. As previous to the inauguration of this plan, harmonious feelings had existed at Windsor, a number of employees were suspicious, and it was difficult to get them to realize the importance of the Committee and the possibilities of same. It is fortunate that since the organization of this plan we can report that it has not been necessary to submit any matters of a controversial nature to the Joint Committee. In two or three instances employees have applied to the Committee about wage matters and same have been adjusted after reference to the foreman without further reference to the Committee.

"The Shop Committee meets each week and frequently calls into conference the Industrial Representative of the Management. I find that our employees are pretty well posted concerning actions of the Committee at Lynn and that our Committee here in many matters seems disposed to accept the Committee decision as made at Lynn.

"These meetings of the Committee have brought out good suggestions for the welfare and efficiency of the employees. The Committee has taken a decided interest in safety conditions and appliances about the factory and assisted the management considerably in various committee work. Our eight per cent and thirteen per cent reduction in wages was put into effect without opposition due a great deal, I am sure, to the fact that conditions were explained very thoroughly through the small committee in a much

better way than they could have been to the employes as a whole. The Committee took up the matter very carefully and explained in detail to all employes before notices were posted.

"In a measure, our Committee work has resulted in increased production and, in addition, we have the hearty cooperation of our employes and many helpful suggestions. I am in favor of the plan."

There is still a little feeling among some of our foremen that their authority has been curtailed—we are trying as tactfully as possible to remove this idea from all of those in authority at the foundry. We expect that our Committees will assume more responsibilities and realize more the importance of their work at Windsor, and I am of the opinion that the plan has accomplished good results at Windsor.

I will read a few words from a report from our superintendent at the Everett Foundry, where he have normally 500 people.

"At the present time our by-laws call for a meeting once a month by the full board of representatives, namely, eleven employes and eleven management representatives. There is also elected from among this body a committee of three employes and three management's representatives known as the 'Committee on Rules, Procedure and Elections' which also meets monthly. At the meetings of the full board the following subjects are discussed:

Facilities within the plant for carrying on certain work successfully.

Rates of pay.

Reasonable accommodations for workmen.

Safety matters that have received unusual attention.

Maintaining stock or parts for repairs on tools, such as air rammers, hammers, etc.

Collective purchasing of specific materials for workmen, such as foundry shoes, flour, coal, overalls, etc.

Educational matters, such as Americanization, moving pictures and safety campaign.

Amendment of by-laws, three articles of which were recently amended.

Housing problems.

Thrift and loan campaigns.

Also many other worth-while subjects.

"One of the great accomplishments has been that the foremen have all expressed themselves as being very much in favor of this plan due to the fact that today if workmen have petty grievances—fancied or real, in their minds—they are disposed of through the proper channels and are not allowed to grow and become aggravated cases. In other words, foremen believe they know how the men feel, which has removed many disagreeable personal feelings between foremen and workmen, and has created a decidedly more harmonious condition.

"When we consider this plan was in force the last year of the war and during the year 1919 when labor was difficult to obtain and wages were high, that we had no labor disturbances of any sort or description, it indicates to the writer that there was displayed a marked degree of confidence on the part of our workmen due to mutual understanding one with the other, and open expressions of opinion that resulted in complete harmony.

"A noteworthy achievement that was due primarily to the Representatives was the interest in our Safety Campaign that started in October, 1920, and that greatly reduced the number of accidents."

People often say that these plans are only suitable for large plants, but these letters and our experiences and the experiences of many others indicate that that is not so. They are just as suitable for a small plant—I will say any plant with 100 employees.

To quote the last words of Mr. Ballard in the letter I have just read to you, he says: "I feel free to talk very plainly with the representatives and they with me. Even under present conditions I would certainly much prefer to work with a plan of representation moulded after that which we are at present working under at Everett, than without it. Were I to undertake business personally, I would certainly adopt some such plan."

I have tried to give you what I consider the basic features of a proper plan of representation, always supposing that justice and fair dealing is going to be the policy of the management. The first requisite of a proper plan is representation by elected employes, elected by secret ballots within the plant. That is absolutely essential, and it is absolutely fair, and assures representatives who are leaders, who have the confidence of the employes, and who are capable of speaking for them.

Another basic principle is that when employes bring up mat-

ters needing adjustment through their representatives, they must always be present with the representatives when the case is discussed by the foreman and by the Shop Committee, by the department head, or the General Joint Committee on Adjustment, or by the management.

The next principle is that the employe must be free to take up any question involving his relations, direct or indirect, with the management, including, of course, working conditions and wages.

It is a decidedly basic, vital principle, in my mind, that every Committee should be a Joint Committee composed of an equal number of representatives of management and of the employes. It is impossible to put over here a committee of employes and over there a committee of executives and expect these men to discuss questions with any intelligence whatsoever, involving the relations of employe and employer; because all sides of the question are not brought out in the discussions; and the minds of the men in cases of such discussions are influenced by the facts that have been placed before them; and instead of harmonizing and solving questions, you are simply raising up bugaboos that will cause endless difficulty. All committees discussing questions under this plan should be Joint Committees.

Another vital principle is that Committee decisions, within their jurisdiction, must be final, if they are unanimous—there must not be any strings to them. The management must not have the power of review, to see whether or not the decisions of these committees shall be put into effect. If you are going to have a committee try a case, give it the power of decision.

Another thing you must be careful about is to avoid compromise, avoid trading, avoid conciliation; these things are not necessary; what you want is fairness and justice, and when you get that there is no need for compromise. Compromise ruins the whole spirit of the thing. Find out what is right, and no matter who it hurts—management or employe,—put it into effect.

In the early days we had one of the Justices of our Superior Court come and talk to those engaged in the plan,—the representatives of the management and the representatives of the employes,—on the principles of evidence, and a great improvement in the dealings of our Shop Committees resulted from that—they began to see they were not representatives of employes when actually sitting on these cases, or representatives of the manage-

ment; they saw that they were men delegated to find out the facts and settle them according to their best judgment. We never think, for a moment, of instructing our management's representatives what to do. It is their business to find out what they should do, and do it; and we never call them to account for any action they may take in a Shop Committee.

Our plan does not provide for outside arbitration, and I think that is a wise thing. The whole essence of the plan of representation is to settle your difficulties in the plant. The moment you say to the Manager,—“We don't like your decision and will go outside and have the matter arbitrated,” you may as well have the arbitration in the first place, because then there is no place for the Manager. Fix it so that the Manager has final decision, and then talk about arbitration afterwards, but do not put it in the plan.

The representatives must be fully protected against the consequences of their acts. There must be no possibility of suspicion that the representatives who make themselves seemingly obnoxious to the management will suffer from it. That is a vital principle.

It is also vital that the plan shall be flexible and capable of changing, and you must have a Joint Committee in charge of the administration of the plan which can change it any time by unanimous vote; and the plan will follow along with the proper development of the system. The election of the representatives in the plant should be geographically, because geographical elections give representatives who have breadth of view. Craft representation is narrow.

Another very vital thing is that the plan should not be allowed to interfere with the executive functions of the plant. The Manager must be free, as if there was no plan, to run the plant. In the operations of the plan if it is discovered that the management has made a mistake, there is a court of review of the management's case, and we have found, through the operation of this plan, many weak spots in our plant department, and remedied them.

There are certain desirable features not vital to the plan. In a large plant we should have these local Shop Committees and the General Committees, but in small plants you do not need all of that mechanism; you simply need the representatives on the one

General Joint Committee—these small plants I spoke to you about only have one General Joint Committee.

It is also very desirable to have periodic joint meetings of all those having to do with the operation of the plan, including employe representatives and management representatives. These meetings should be largely of an educational nature, and give an opportunity to the manager to set forth the conditions of the business and the policy of the management. They give the employes opportunity—we provide for employes' speakers—to tell us how things are going on, what changes ought to be made, and what their feeling ought to be toward the management. They are most valuable and educational.

Another thing is, you need constant education of the foremen and constant education of the employe representatives of the Shop Committee men as to their duties and the theories on which your plan is operating.

Now, it will probably be said that all this takes a lot of time. So it does; it takes time to cultivate human relations; but you will take more time in cultivating human relations to the same extent without a plan of representation than you will with it. The plan of representation gives an opportunity to spend this time in cultivating the human relation to a great deal better advantage than any other way; in fact, you cannot cultivate it in any other way so well as with the plan of representation.

Industry today occupies a different position and a different relation to the community than it ever did before. We realize today, as we never did before, that the public has a vital interest in industry, in its orderly conduct, and in the fruits of it. Many people today see that there are four factors in industry—employes, management, stockholders, and the public. Whether you go that far or not, you must realize that the public does take a great interest in this matter. You must realize that corporations, which is the form many of our industries take today, are creatures of the public; the public regulates them, and is entitled to know how they are conducted.

It is seriously urged and seriously proposed that the relations between employes and management should be made the subject of government regulation—that if we allow the matter to drift along we permit our relations to continue liable to sudden upsetting; if we continue to allow the tremendous percentage of strikes—

forcible interventions in the conduct of our business—if we fail to solve these problems for themselves, they will be solved for us by government regulation, and no man whom I have consulted, who is connected with any plan of government regulation, will say that government regulation is preferable to a proper private regulation. The managements of industry owe it to themselves, they owe it to their employes, and they owe it to the country to solve these problems for themselves along just and proper lines, and not let the government do it for them.

Now, if I am correct in believing that a plan of representation is a step in the direction of the solution of these problems internally, then I say that it is the duty of industry to seriously consider whether it can afford to operate without such a plan.

There are other countries that have not properly solved problems, and one of them is very much in our hearts, I hope—certainly very much in our minds—where the labor problem is being solved, if it is being solved at all, along very different lines; where it is even feared that the government will get into the hands of the labor people; and one of the colonies of that country already has its government in the hands of the laborites with very indifferent success. Does any man here desire to see labor in that position in this country? The answer is, No, undoubtedly. We cannot afford to do it.

Gentlemen, we have got to solve this problem for ourselves. If you have a better solution, by all means bring it forward and let us look it over; but in the absence of a better solution, in my mind, this plan of employe representation, is the solution. Mr. William B. Dickson, Vice-President of the Midvale Steel Company, which has large works and an enormous number of operatives, is operating plans of representation in all of their works. I was recently at dinner with Mr. Dickson when he was asked the question, "What is the solution of the industrial problem with regard to human relations?" His answer came back quick as a wink—"Install plans of representation." That is the feeling of those who have operated plans of this kind, and have operated them successfully; and the gratifying thing about it is that no matter what kind of a plan you are operating, if your heart is back of it, and you want to do the right thing, and you are willing to give it a little time, it is invariably successful. The only lack of success I have ever found was where the plan was put in under

protest—where the management did not believe in it; and it was a failure because they did nothing to help it along. A plan of representation is only a machine tool—a part of the equipment, and a facility for doing business. You must do the business, you must study the plan and make all you can out of it, and if you do that it will be a success.

I do not think we put as much time on the solution of the human problems as we do on manufacturing or merchandising problems. If we gave more attention to the problem of human relations we would make much better successes of our undertakings in the other directions. I think the trouble is that we are getting along all right, as we believe, on the manufacturing problem, and we are endeavoring to see how much we can extend our market, or borrow more money, or issue bonds. We do not give time to this human relation problem, and the time to do it is when things are peaceful, not to wait until there is industrial stress.

I have great confidence in the intelligence of American manufacturers, and now that this thing is in the limelight, and has been successful in so many industries, I believe the plan will have a period of great expansion and will grow in importance. I think we are far from the end of the development of this thing, but so far as we have gone I regard it as a most successful and a most encouraging development.

MR. W. W. SCHMITT (The Schwarzenback Huber Co.): What percentage of your employees are foreigners, or are they all Americans?

MR. RICE: About 45 to 50 per cent of our employes are Americans, and the other 50 to 55 per cent are foreigners, including the English speaking countries, and represent 37 nationalities—we have large numbers of Italians, Poles and Greeks.

MR. SCHMITT: We have about twenty-one nationalities. How strong is the union in your works?

MR. RICE: The more upset our conditions are the stronger are the unions. At the start the union was 85 per cent strong, and up to within six months practically all of the representatives on the Committees have been strong union men—men who are solid at the union headquarters.

MR. H. H. TUKEY (Submarine Boat Corporation): At what point in the organization does the function of management com-

mence and the function of the employe end, that is, who are your local representatives and who are your management representatives? Have you noticed any increased productivity as a result of the plan?

MR. RICE: Answering the last question first, I believe there has been a constant increase in productivity since we began to operate our plan by a substantial amount.

Answering the first question, the employe representatives are actual employes; no foremen, assistant foremen, inspector, or representative of the management of any kind can be an employe representative—the employe representative must be a working man or a working woman. We have a number of women, but, of course, a much greater number of men. The representatives of the management are chosen for their fairmindedness, calmness of disposition, and also chosen to be out of the current of the dealings having to do with the settlement of the cases in dispute so they can bring to bear on it the greatest possible degree of fairness and impartiality.

On the Joint Committees we select the best men we have in the plant. On the Adjustment Committee we have the Assistant to the Manager, Chief of the Statistical Department, head of the Production Department, and we have the Managing Engineer of one of our large apparatus departments.

On the Procedure Committee, which has to do with the administration of the plan, I am one of the Management's representatives, the General Mechanical Superintendent is one, and the Manager of one of our divisions, which we call the Federal Street Works, is also a member. We believe we must put forward our best men, because we believe these problems are the biggest problems with which we have to deal.

MR. E. R. COLE (Acheson Graphite Co.): We employ something like 350 men in normal times. We do not have any particular plan that varies from the one outlined by Mr. Rice. In so far as the employes' representation is concerned, that is carried on through what is known as the Foremen's Organization. They select and elect whatever representatives they care to from the workmen.

Supplementing that organization, we have in each department a committee made up of the foremen and one workman who can understand the English language to such an extent that we

can talk to him when he sits in the committee with the foremen and myself. When we put something up to them, he can go back and explain it to the people of his own nationality.

However, the representation proposition comes through the Foremen's Organization, and if any one has any complaint to make they make it through the medium of that organization. They explain it to the Superintendent, according to the seriousness of it, and following Mr. Rice's plan, the man who makes the complaint must be present at the time when his complaint is discussed.

The whole thing is a matter of confidence, and I personally believe that this whole personnel relations problem is more or less an arithmetical calculation. We all learn arithmetic and get the same answer to the same problems, under the same conditions, we keep on solving the problems in the same way, and we get the same answer no matter who does the calculating.

When the business depression came we knew we did not have work enough to keep going on full time. The Foremen's Organization was called together, the conditions were explained to them that orders were falling off and were being cancelled, and we asked them what they recommended. They went back to the employes, and finally came back in a week or so and said that they would all go down together, instead of laying off some men, until they reached a three days a week condition.

Some of the men who had large families finally reached the condition where they went to the Foremen's Organization and asked them if they could appoint a committee of their nationality to interview the Superintendent. They were granted that permission, and the committee came in and said they could not live on the three days a week working time proposition, and that there were some men working who could well afford to be laid off. It was put up to the Foremen's Organization, and they took a vote on it and decided we should lay off some men.

Instead of taking our employment records and saying we would lay off the ones who were single, we asked the older men to recommend whom we should lay off. Some of the things that we discovered during that experience were very surprising. There was one man who had a family of a wife and four children. He apparently had been expecting to be laid off, and had put in a few feelers so that he could be taken care of, and these

got under our skins, and the Employment Manager said, "Here is a man we should not lay off," but when the list came in from the workmen he was on the list for a lay-off. We made an investigation and found that the committee recommended that he should be laid off because he had \$5,000 in the bank. We acted according to their recommendation and two days later he came into the office and said that he wanted to bid us good-by, as he was going to Poland. He had \$1,100 worth of steamship and railroad tickets, and we also found that he had the remainder of the \$5,000.

The confidence Mr. Rice spoke of is absolutely necessary; and as a little further illustration of that, I want to give further testimony in connection with one case. I presume you have all noticed that our customers are getting more critical than they used to be. There is one department in particular, on the product of which the customer began to make demands for accuracy far beyond what he ever did. We called the foreman in and explained to him what this accuracy meant, and he said, "Well, that means if we produce these goods with more accuracy we are going to have a cut in our wages." We said, "We recognize that point, but what can we do about it?" He thought a little while, and he said, "If we do not get to this accuracy, and cannot sell the goods, we will not have anything with which to pay the pay roll." Three days later he came back and produced a statement signed by him and all the men saying they would produce the goods to this accuracy, and be willing to cooperate with the department for two weeks, taking the reduction this would mean. This amounted to \$7 to \$9 of each man's wages. When we got through the two weeks' period, we made an adjustment; at the end of the two weeks the men stood the reduction of \$7 to \$9. On my desk this morning was a piece of paper signed by the foreman and all the men in the department expressing their appreciation of the prompt action and sincerity on our part in giving them a square deal. It seems to me it proves sincerity on both sides.

Another instance was in connection with the necessity of reducing wages. One day we called the Foremen's Organization together, and on the blackboard set down the names of certain plants, and the information we had as to the reduction that they had made in the rates of pay. As we wrote these items down

we asked the foremen to confirm the information, in so far as they had any knowledge in connection with the plants listed, and when we had the whole list finished they agreed we had the correct information. Opposite this list we put down the state of our orders, our power situation, the increase in power cost, and several other things, and the whole field was considered, with all this on the blackboard we asked them if they were satisfied that the information was correct, and they agreed it was. I then left the meeting, and in a half hour the secretary sent me a note that a committee of five had been appointed to consider the question of wage rates. The committee came in and asked for information showing the per cent of increase in the various grades of labor up to and including the superintendent since 1916. When they included the assistant superintendents, we began to prick up our ears, but we had faith and gave them the rate. They found there was about 122 per cent difference in the increase in the rate of pay of the ordinary labor and that of the assistant superintendents and superintendent. When we got these figures together, some of the assistant superintendents felt concerned, but I was quite confident there was nothing unreasonable going to happen to any of the boys.

One of the committeemen one day while riding on the street car made the statement that this was the "chance he was looking for, and he was going to trim some of the big fellows, and this was his opportunity, and he was going to take advantage of it." The committee at the end of the week came back for more information, which we gave them. Two days later the committee said they were ready to report, and this was the result—that ordinary labor receive a 17 per cent reduction; semi-skilled men 15 per cent; assistant to foremen 12.5 per cent; foremen 10 per cent; superintendent and assistant superintendents no reduction.

MR. W. E. WICKENDEN (Western Electric Co.): Do the matters that are considered in the machinery of the plan of representation arise on the initiative of the employes, or does the management bring them up?

MR. RICE: The management puts up broad questions of policy wherein the advice and opinion of the employes would be valuable. In the case of our wage reduction, I can read very briefly, because I have it in the form of a notice of information to employes, just what was done. In a notice previous to the

one that I shall read I explained that the General Committee on Adjustments was at my request considering ways and means by which the general business conditions could be met. The notice that went out under date of February 10, 1921, was as follows:

"In Notice No. 99, under date of January 29, I explained that the General Committee on Adjustment was, at my request, considering ways and means by which the present business conditions could be met and work provided for the largest number of people under conditions likely to be met with in the near future.

"This committee has held a series of meetings, at which it has given very careful consideration to the situation, and it has unanimously come to the conclusion that a reduction in wages is proper and necessary.

"In view of all the circumstances I feel that the conclusion of the committee is a just one, and I concur in it.

"The committee was unable to reach a conclusion as to the proper amount of reduction in wages that is necessary to meet the requirements of the present situation, owing to the rapid changes of conditions and their complexity; and I fully appreciate the difficulties under which the committee has labored in considering this matter.

"The committee concludes the minutes of its discussions with the following language:

"We are willing to leave this matter to you, knowing that you will conserve the best interests of all concerned."

"After due consideration of the views of the committee and of all the facts, and desiring to make the minimum adjustment that will be likely to bring about the necessary result, I have decided upon the following changes:

"There will be a thirteen per cent (13%) reduction in all piece work prices and basic rates, aside from the adjustments now being made under Notice No. 96.

"There will be an eight per cent (8%) reduction in the rates of hourly workers and day work scales, except as follows: Foremen, assistant foremen, leading hands, draftsmen, engineering and cooperative students, apprentices and instructors. These exceptions are made because the wages of these groups have increased by a considerably smaller percentage than others."

MR. WICKENDEN: Are unanimous decisions binding in those cases as well as in the cases of grievances?

MR. RICE: That is a case where the advice of the committee was asked, and their advice was unanimous. We try in all cases

in the General Electric Company to have unanimous conclusions, because we feel if one or two people cannot be convinced there must be something wrong with our proposition.

MR. WICKENDEN: Was the opportunity given to this committee to volunteer any supplemental matter they chose, or could they only act on the matter in advising with you?

MR. RICE: In that case, the simple proposition was put, nothing more, and the figures were given to the committee. We had made every possible economy we could to reduce costs, and I put the broad proposition up to the committee what further steps the management could take to insure getting in as much business as possible. They came back with the proposition that the thing to do was to reduce wages.

JOHN CALDER (Swift & Co.): I would like to support what Mr. Rice said regarding the importance of making these movements very democratic. For between two and three years Swift & Company has had in two plants in Canada and one in the United States employee representation plans and recently they have extended the plan on a more democratic basis to fourteen plants in the United States employing about 18,000 people, and ranging from normally about 9,000 people in one plant, down to 200, so we have both the large and the small plant problems. We thoroughly believe in employee representation. We believe in the employees selecting their own representatives by secret ballot and not in any way through the cooperation of officials to whom they may be in any way responsible.

The management selects the employers' representatives and it is the duty of the chairman to see that an equal number of these people are present, representing on the one hand the management and on the other hand the employees, and to see also that only an equal number vote on any question. We also require that any committee shall be unanimous in its decisions, or else the matter goes up to the assembly, where a two-thirds vote carries. We do not want a workman or group of workmen justified or turned down by one vote. That does not promote unanimity, and usually indicates that the facts are not fully brought out. We believe if the matter is investigated enough to bring out all the facts, the decision should be unanimous, and that as soon as we get confidence in one another it will be unanimous. We believe, as Mr. Rice does, that it is a good thing

to have the brainiest men represent the employees in the Employees Representation Plan. Where such a representative is a union man, it will have a good effect on him. The educational effect on the union man, who has only heard the subject of his employer discussed outside, is very marked in joint conference.

JOHN CALDER (Swift & Co.): In 1917 Swift & Company were called upon to feed a large part of the American army, as well as continuing to supply the Allies. As we then came under Federal Labor Administration for war purposes, we were not able to extend our Employee Representation Plan, and the Administrator has continued to rule upon the labor issues straight through since the Armistice. He is shortly to give it up, and we are extending our Employee Representation Plan with the fullest confidence that it is the democratic and successful way of handling industry in America. It recognizes that every man should have a fitting opportunity to reach out beyond his position, which he has not in England, and that is the trouble over there—the workmen have lost hope—but this democratic method of dealing with the interests of labor will be the salvation of industry and the upbuilding of the workingman in America.

A DELEGATE: I would like to ask Mr. Rice if the Manager holds the power of veto?

MR. RICE: I tried to make that clear, that he does not; no, sir, no strings to it.

F. C. HENDERSCHOTT (New York Edison Co.): If in order, I move a vote of thanks to the speaker who has come here and given us this interesting message. (Motion was unanimously carried.)

(The meeting then adjourned.)

VISUALIZED TRAINING

WEDNESDAY MORNING—JUNE 8, 1921

PRESIDENT KINCAID, Presiding

PRESIDENT KINCAID: Mr. H. M. Jefferson, Chairman of the Committee on Visualized Training will take charge of this morning's program.

CHAIRMAN JEFFERSON: It has been stated that the eye is twenty-five times quicker than the ear and that 93 per cent of our impressions are received through the eye. Our committee has found no scientific data to corroborate these statements, but it is certain that the eye is more efficient as an impression receiving medium than the ear.

Our questionnaire is as complete as anything that has been sent out in our particular field. It aroused considerable interest, particularly among motion picture producers.

The committee has witnessed a great many premier exhibitions of films, and we have held countless interviews with producers.

The theatrical motion picture field is very well organized as to production, distribution and business methods. I wish it were possible to say as much about the non-theatrical field. Many attempts have been made to organize it, particularly in the matter of distribution, but so far these attempts have been unsuccessful. Many people are earnestly interested and much money and effort have been expended. It is to be hoped that the non-theatrical field will be improved in the near future.

Our report is intended to present a general survey of the use of motion pictures in the industries. Inasmuch as our report is on visualized training and believing as we do that the eye is quicker than the ear, we propose to present the report in a rather unusual manner.

The purpose of the exhibition is to show you the way films may be used in industries. Films have been used rather extensively for what we call propaganda purposes and this is sub-divided into two parts; first where the aim is to present the industry to the public as a whole and second where the industry aims to enlarge the vision of its employees, its plant or its own industry. Much good work has been done in this branch of the work.

Advertising campaigns have been carried out through the use of motion pictures. We shall show you a section of one which was successfully used in connection with a motor car. The plan was so successfully designed, the newspaper and dealer tie-ups so well covered that the motion picture men actually found themselves selling cars before the demonstration was over.

I believe there are tremendous possibilities in the use of the ultra-rapid pictures which you probably know as the slow motion picture. We may expect some progress in the mechanics of ultra-rapid pictures during the coming year. At the present time artificial light is not strong enough to use this camera within a plant. When they can be adapted to the industries, it will be possible to analyze the performances of an excellent operator and show this to those whom we wish to train.

Many attempts have been made to employ motion pictures in educational work with children. Our short section on microscopic work will illustrate one method. In our report we say, "Strange as it may at first seem, motion pictures have added materially to the value of microscopic studies. It is well known that very few students get proper adjustment of the light, lens and object in microscopic work. Much of the real knowledge is obtained from drawings in the text rather than from microscopic studies. The instruments are expensive and when supplied to a large class must of necessity be of the lower grade. But when a moving picture camera is connected with a fine microscope with light, lens and object under expert control, the results recorded on the film compare with the expert's visualization of the processes. Then the finest results are seen by the whole class at once and no instruments are required. Biology, physics, chemistry and kindred subjects are being successfully taught in this way at the present time.

In short, a teacher who has a high-powered microscope on his desk is able to adjust the subject, lens and light and gets a perfect picture. Most of the students get nothing. When we place the motion picture camera over the teacher's microscope and show the results by means of a film, every student sees the object even to the minutest detail.

We shall illustrate how films have been used by salesmen in demonstrating heavy machinery by going into the prospect's office or home and showing the pictures on the wall. We shall also exhibit a section of the National Cash Register Company's film on

training retail salesmen. We made an extensive search to find a shop practice film, but it would seem as if there are none in existence. We have used an animated drawing, entitled, "Electric Iron Assembly" which illustrates in a measure our views as to the way films should be prepared in order to teach the worker how to do his job.

We are enthusiastic over the possibilities of animated drawings for real training work. The background is subdued and the point to be made is brought into strong focus. Accentuation is made within the picture by means of pointers, arrows and the like and the ensemble presents possibilities of concentration that are almost ideal.

The mechanograph follows very closely the methods of the animated drawing. These pictures are produced from cross sections of models which are put through motions in sequence by short steps and the pictures taken of the different steps. The effect is practically the same as the animated drawings.

I wish you would give particular attention to the films in the latter part of the exhibit entitled, "The Elements of an Automobile," "Course of Diverted Water at Niagara Falls," "Motor Car Vacuum Feed," and "Induction Motor Operation." Please study them with reference to their training value. Note how extraneous material has been eliminated and how the points to be made are emphasized. Consider whether the screen is not capable of telling the story far better than if the pictures were supported by a lecture, and whether a lecture would not actually detract from the teaching value.

In summing up the committee is very anxious to have you assay the exhibition critically and to determine for yourselves whether motion pictures may be successfully applied in the industries in teaching the workers how to perform their tasks.

COMMITTEE ON VISUALIZED TRAINING

H. M. JEFFERSON, *Chairman*

ACTIVE MEMBERS

MR. ROY L. DAVIS

AMERICAN CINEMA CORPORATION
New York, N. Y.

MR. P. A. RAIBOURN

FAMOUS PLAYERS-LASKY CORPORATION
New York, N. Y.

MR. H. M. JEFFERSON

FEDERAL RESERVE BANK OF NEW YORK
New York, N. Y.

INACTIVE MEMBERS

Miss ELIZABETH BOHN

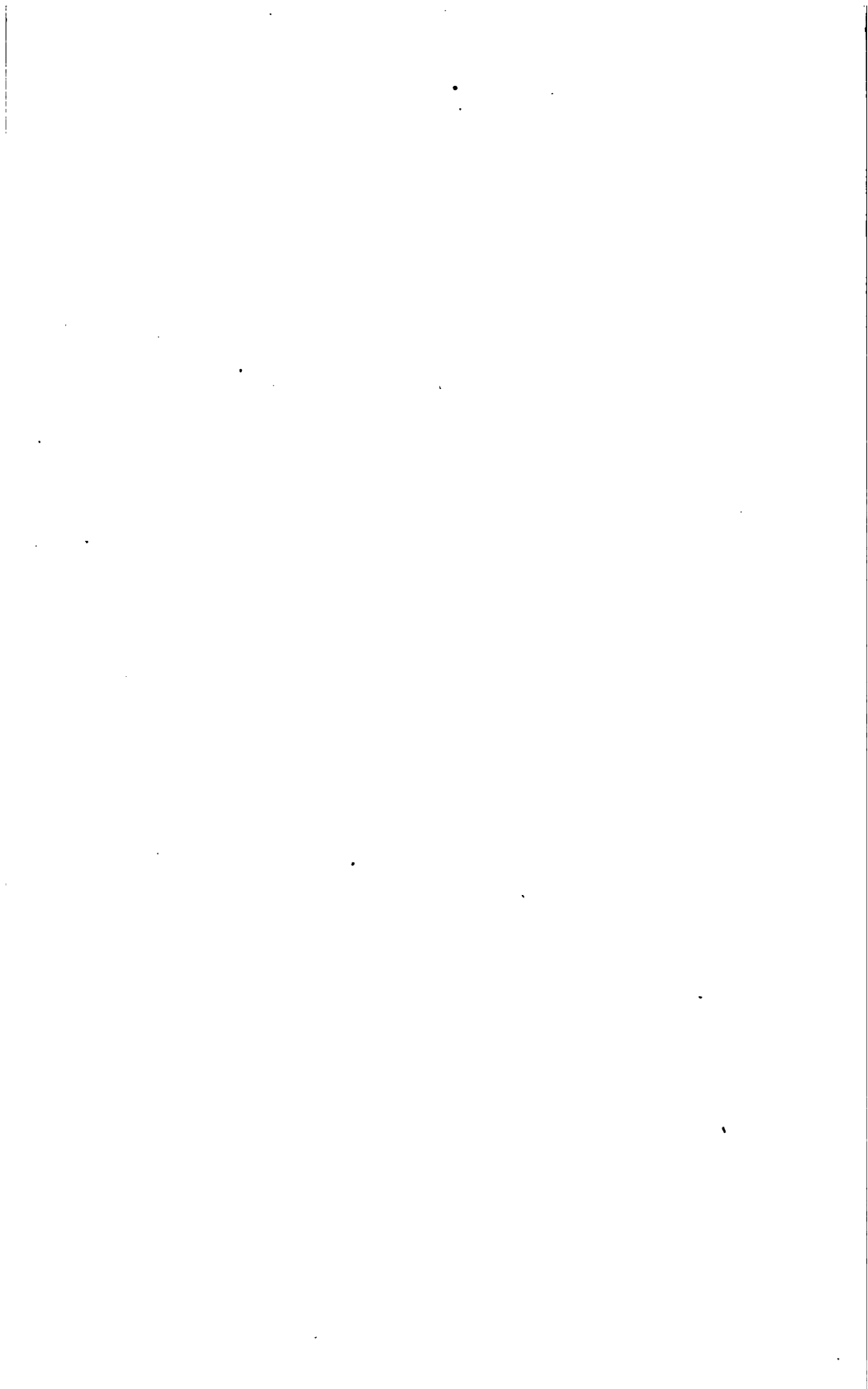
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COMMONWEALTH EDISON COMPANY
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MR. J. C. HORMEL

GEORGE A. HORMEL & COMPANY
Austin, Minn.



REPORT ON VISUALIZED TRAINING

Topical Outline

Section I—*Statement of the Problem.*

1. Visualized training is not new.
2. Impetus given by the Great War.
3. Rapid growth.
4. The work of the committee.

Section II—*The Survey.*

1. Questionnaires sent out.
2. Replies received.
3. Sundry correspondence and interviews.
4. Meetings held.
5. Analysis of the replies.
6. Value of the information received.

Section III—*General Introduction.*

1. Extent of the use of films.
2. Motives for use.
3. Further use.
4. New motives.
5. Obstacles encountered.
6. Title of person responsible for motion picture work.
7. Primary use of films.

Section IV—*Production, Use and Distribution.*

1. Sources of films used.
2. Contribution to production.
3. Number and character of films used.
4. Costs.
5. Ultra-rapid films.
6. Micro-motion studies.
7. Microscopic films.

NOTE.—Attention is called to the fact that the points brought out in this report will be illustrated immediately following the discussion by motion pictures especially edited by the committee.

8. Animated drawings and charts.
9. Distribution methods.
10. Film censorship.

Section V—*Equipment and Facilities.*

1. General statement.
2. Auditorium.
3. Projection booth.
4. Projection and projecting machines.
5. Character of light.
6. Screens.
7. Lantern slide projection.
8. Operation of machines.

Section VI—*Fire Hazard.*

1. Composition of standard films.
2. Composition of safety or non-inflammable films.
3. Relative combustability.
4. Fire laws, regulations and insurance premiums.
5. Storage of films.
6. Influence on progress in motion picture use.

Section VII—*Educational Value and Methods.*

1. Value in educational work and industrial training.
2. Correlation of films with training.
3. Criticisms of present educational films.
4. Reactions of employes and students.
5. Subject matter adaptable.
6. Programs of instruction.

Section VIII—*Suggestions.*

1. Desirable improvements in motion picture industry.
2. Clearing experiences.
3. Industrial and educational film library.

Section IX—*Conclusions.*

1. Production factors.
2. Lack of educational films.
3. Distribution methods.
4. Equipment and facilities.
5. Methods of using films in educational work.

SECTION 1—STATEMENT OF THE PROBLEM

1. *Visualized Training Is Not New.*

Visualized training is not by any means a new or novel method of teaching. It has been known and appreciated since the latter part of the seventeenth century when Commenius first used pictures to illustrate text books. Other noted educators followed with different ideas, but no more fascinating field for educational research has ever been presented than that offered by the use of motion pictures as an aid in training.

2. *Impetus Given by the Great War.*

When the American soldiers were called to train for service in the Great War they were asked what they could do best. Some said one thing; some another. Finally a motion picture expert came along and, after naming his specialty, volunteered the information that motion pictures would help win the war if they were properly used. In answer to the natural question, "How?" he said, "By providing the means of speeding up the training of soldiers in military tactics, map reading, bomb throwing, machine-gun operation and every other means of attack; by training industrial workers more quickly and easily; by inspiring the mechanics in the shops throughout the country; and, finally, by teaching the soldiers how to take care of the health of their bodies." He and many other motion picture experts were set to work and some excellent films were produced. Those describing technical processes and the effects of venereal diseases were particularly valuable. The world never saw a cleaner army than Uncle Sam landed on the shores of France. (See note.)

3. *Rapid Growth.*

Encouraged by this spectacular success, non-theatrical picture producing concerns sprang up like mushrooms. The abnormally large profits made by manufacturers and merchandisers during the war; the lavish advertising appropriations made by these concerns created a fine field of willing prospects which the motion

Note.—Mr. Jam Handy made the statement in a speech delivered before the General Session of the Reconstruction Congress of War Service Committees, Chambers of Commerce Officers and War Councilors, at Atlantic City, December 6, 1918, that the use of motion pictures shortened the war at least two months.

picture producers were not slow in cultivating. Advertising and general propaganda films were produced in great numbers. The producers who were men of vision, saw the possibilities in motion pictures for educational purposes and they proceeded to exploit this field.

They promised more than they could perform at that stage of development and created a suspicion in the minds of prospective users which might have seriously retarded progress had it not been for the credit stringency which curtailed a vast amount of industrial motion picture work. This period of depression gave an opportunity for the motion picture concerns to put their houses in order.

4. *The Work of the Committee.*

In response to a special demand the Committee on Visualized Training was appointed at the 1920 convention and was asked to make a survey of the use of motion pictures for training purposes and to report its findings at the 1921 convention. The report follows:

SECTION II—THE SURVEY

1. *Questionnaires Sent Out.*

The committee met very early in the fall of 1920 and organized for work. Three sets of questionnaires were prepared, one for industrial users of films, one for educators (see footnote), and one for producers.

The questionnaires for industrial users and educators were identical except that the word "students" was substituted for "employes" and questions regarding microscopic studies were substituted for questions regard micro-motion studies. The questionnaires are set forth in full in the appendix.

One thousand questionnaires were mailed during the first week in January, as follows:

To industrial users	350
To educators	450
To producers	200

Note.—The term "educators" in this report includes principals, teachers, professors and instructors of elementary and high schools, colleges and universities, city and state supervisors of education, and directors of specialized branches of teaching, such as university extension work, etc.

2. *Replies Received.*

Though no tracing letters were dispatched, returns were received from more than 15% of the list. At the time of writing the report, replies are still arriving. The returns were classified as follows:

	<i>Positive</i>	<i>Negative</i>	<i>Total</i>
Industrial Users	52	23	75
Educators	28	19	47
Producers.....	15	17	32
Totals.....	95	59	154

The committee was given an opportunity to read and digest several hundred letters from industrial users of a special advertising film. One hundred and fifty of these letters were actually read and one hundred and seventeen analyzed, making a total of more than three hundred contacts by questionnaires.

3. *Sundry Correspondence and Interviews.*

The committee regrets that it has kept no record of the number of special letters written and of personal interviews held especially with producers. Members of the committee have also attended a number of premier and private exhibitions of educational films and have participated in experiments and discussions on the subject in hand.

4. *Meetings Held.*

The active members of the committee, Mr. Davis, Mr. Raimbourn and Mr. Jefferson met weekly from the early fall of 1920 until the latter part of March, 1921, with the exception of the Christmas holidays and the holidays in February.

5. *Analysis of the Replies.*

The positive replies of those reporting on actual experiences with motion pictures were analyzed and tabulated in four groups, as follows:

a. Industrial Users	52
b. Educational Users	28
c. Advertising Users	117
d. Producers	14
	<hr/>
	211

These analyses and the original material except that supporting "c" have been filed with the Managing Director of the Association and are open for inspection by members.

6. *Value of the Information Received.*

The replies which the committee has classified as "positive" gave evidence of having been very carefully prepared. Those from industrial users gave experiences from almost as many lines of business as there were answers, including steel production, milling, foods, office machinery and equipment, clothing, electrical machinery, steam railways, street railways, electric light and power companies, oil producers, chemicals, insurance, etc.

The contributions from educators and producers add their peculiar value. The one hundred and fifty special letters covered the widest possible range in a highly specialized industrial field.

The committee believes the information obtained is very valuable to any industrial concern which uses or expects to use motion pictures in any way.

SECTION III—GENERAL INTRODUCTION

1. *Extent of the Use of Films.*

Seventy per cent of the industrial concerns and 60% of the educators who replied to the questionnaires had made use of films. A number of the industrial concerns are well known national industries having hundreds of branch offices. Several of the replies from educators represented the experiences of state or city educational boards.

A number of industrial users have special exhibiting halls fully equipped. Some have regular schedules of motion picture exhibitions. Motion pictures have undoubtedly found a place in industrial training and educational work of various kinds.

2. *Motives for Use.*

It seemed wise to the committee to ascertain the motives which prompted the use of motion pictures in the first instance. The industries replied as follows:

Education—general	24
Advertising	15
General propaganda	11
Entertainment	9
Sales demonstration	8
Safety instruction	7
Sales instruction	3
Inspirational	3
Americanization	3
Shop practice education	2
Health education	2
Shop methods—general	1

The following specific statements by industrial users of motives may be of interest:

"To reach employes not interested in other forms of educational work and for their (films) interest to all employes."

"To save time, give breadth to the instruction and to increase interest."

"For advertising to groups of business men like Rotary Clubs, Kiwanis Clubs, Boards of Commerce, American Institute of Banking, Chapters, etc., also for educating students in schools and colleges."

"To encourage men to gain promotion through the avenue of study."

"To teach in the most effective way our own employes, our salesmen, also the prospective buyers of our products and to carry community and business improvement ideas to communities and cities everywhere."

It is more difficult to generalize the motives which prompted educators to use films, but the predominating reason for their use is entertainment quite strongly flavored with the idea of counteracting the influence of certain films shown in many motion picture houses. The motive next in importance in the minds of educators is best expressed by one who said, "To facilitate and enrich instruction."

3. *Further Use.*

It is interesting to note that of the fifty-two industries now using films only two do not expect to continue to use them. Two

others are undecided. No reasons were stated. Only one of the twenty-eight educators does not expect to continue, and he undoubtedly would but cannot because of "a new administration" in his community. Including this educator with a will to do, but with a new administration to prevent, 95% of those who have used films will continue to use them.

4. *New Motives.*

One may safely conclude from the figures stated in a previous section that advertising, general propaganda, sales demonstration, sales instruction and similar motives, other than education, prompted much of the initial use of films. As they were used it became evident that they might be made to serve other useful purposes. The following comparison of original and subsequent motives may be of interest:

<i>Original Motives</i>	<i>Subsequent Motives</i>
Industrial relations, financing and advertising	Shop practice instruction, welfare and general propaganda
Accident prevention	General improvement and advertising
Education	Industrial (probably shop practice instruction)
Advertising	Education
Advertising	Sales instruction, shop practice instruction
Advertising	Education
Sales propaganda	Education
Safety and sales instruction	General propaganda
Sales promotion and illustration, education and training	Micro-motion study

5. *Obstacles Encountered.*

In studying the obstacles reported by users of films for educational purposes, the committee found that twenty out of twenty-eight educators complained of the lack of suitable films. Twelve industries complained of this and kindred matters. Inefficient distribution ranks second in importance. Lack of equipment and funds and cost of the service follow in order. Fire regulations, in some states, are rather exacting. Some users state that films

owned and distributed by industrial concerns are not properly maintained. These obstacles are not serious and will all be adjusted in due course.

6. Title of Person Responsible for Motion Picture Work.

The committee had hoped that it might point out the function or title of the man in charge of motion picture work in the industries, but the replies were so scattering as to be of no practical value. In general, motion picture work is under the supervision of the advertising manager. The educational director holds second place. Many schools and colleges have regularly organized departments of visual instruction in charge of a director of visual instruction.

7. Primary Use of Films.

The committee asked the concerns to state whether the films were prepared primarily for educational work or if they were used for training and education as an afterthought. The thirty-one answers were classified as follows:

Informational	13
General propaganda	7
Advertising	3
Safety	3
Americanization	2
Sales	1
Health	1
Entertainment	1
Total.....	<u>31</u>

A comment by the representative of a well known concern in answer to this question voices the committee's sentiments very well. It reads as follows: "Usually they were films called educational, but not properly so." One educator said, "Mighty little film is produced for instruction."

SECTION IV—PRODUCTION, USE AND DISTRIBUTION

1. *Sources of Films Used.*

The sources from which films were obtained by the industries and by educators can best be determined by referring to the following tabulation of the replies:

Question	Industries		Educators	
	Yes	No	Yes	No
What were the sources of films used				
a. Produced especially for you.....	31	13	7	17
b. Rented from distributing agencies	16	13	17	5
c. Borrowed from Governmental, educational and similar agen- cies	14	15	17	6
d. Borrowed from industrial organ- izations	15	11	16	9

Many more films are available than is commonly supposed, but there is no one complete list and, what is still worse, the descriptive material gives no basis for making satisfactory choice. The following sources are worthy of inspection:

1001 Films—A reference book for non-theatrical film users. Moving Picture Age, Chicago, Ill.

Motion Picture Films—Industrial and pictorial films of educational value. Henry Disston & Sons, Inc., Philadelphia, Pa.

List of Industrial Motion Pictures—Industrial Department, International Committee of the Y.M.C.A.'s, 347 Madison Avenue, New York, N. Y. The Bureau of Education of the Department of the Interior, Washington, D. C. The Bureau of Commercial Economics, Washington, D. C. The Society for Visual Education, Chicago, Ill.

The question of exchanging information and of instituting a library of industrial and educational films will be discussed later in the report.

2. *Contribution to Production.*

The Committee thought it would be desirable to know how much of the work of preparation of films is generally done by the

industries themselves and how much by the motion picture producers. The industrial users were asked to show the respective contributions by percentages under the following headings:

- a. Outline or original theme
- b. Studies of technical processes
- c. Preparation of scenario or working script
- d. General direction of actual taking of scenes
- e. Actors and actresses.

The replies would seem to indicate that the industries furnished by far the greater part of the talent. They give very little credit to the motion picture men except under sections "c" and "d" and the tendency even here, according to the returns, is for the industries to carry about 50% of the responsibility.

The Committee wonders if the following conditions have been given full consideration in preparing the answers:

a. Very few, if any, contracts are placed until an outline has been decided upon. It is a vital part of the contract and the producers must be credited with practically all of the initiation of the theme, with at least 50% of the actual work of preparation, and 75% of the prodding that finally puts the contract across.

b. While it would seem that a man within the plant could make better studies of technical processes than an outsider, it must not be forgotten that, as a rule, the man within the plant is treading strange ground when he attempts to translate processes into motion picture scenes. As motion picture producers realize the importance of making studies of technical processes, particularly where the film is intended for pedagogical use, they will require more and more control over this part of the work and will themselves supply the expert talent.

c. The preparation of the final scenario or working script requires a knowledge of motion picture technique that few advertising or educational men possess. Practical men must do this work if good results are to be obtained.

d. One can hardly blame the purchaser of the films for taking a hand at times in the general direction of the actual

taking of scenes for industrial use. The average director places the emphasis upon the staging or the dramatic features. In short, the emphasis has been misplaced and the industrial man has tried to correct the trouble. The purchaser has not always helped by doing so; in fact, he has usually upset proceedings at a critical time.

The question of industrial and theatrical viewpoint of the director is, however, an extremely important point in the making of films for training work. The committee recommends that films like the *Elements of an Automobile* and others of similar character prepared for strictly training purposes be studied with reference to the proper placing of emphasis and pedagogical presentation of the material.

e. There is very little, if any, demand for outside actors in the taking of industrial films. The committee thinks that actual processes can be demonstrated more satisfactorily by regular workers.

The function of cutting, assembling and editing a film is the most vital in the entire production process. The "big guns" always take a hand in this when theatrical films are receiving their final treatment. It is peculiar, but everyone who has a finger in motion picture production thinks that he has a natural gift for determining what the public will and will not accept. There should, however, be very close collaboration between a man experienced in the reactions produced upon audiences by certain of the motion picture practices and a man who is expert in methods of training if we are to have the best results. Stating the case in other words, there is a technical view which the educator does not appreciate and a pedagogical view that the technical motion picture man does not usually understand. The two must be coordinated in editing films for educational work.

3. Number and Character of Films Used.

The returns are not sufficiently accurate under the heading to permit the committee to draw conclusions other than a confirmation of the fact that advertising and general propaganda films predominate.

4. *Costs.*

Fees for rented films vary from nothing to \$10.00 a day per reel. The average cost seems to be somewhere between \$2.00 and \$3.00 per day per reel. Express charges are usually paid by the exhibitor.

The average cost of films produced is slightly over \$1.00 per foot of completed negative. The prices range from 50c to \$2.50.

There is no standard type of contract except for renting, and it is the general custom to make each film an individual matter.

There is a decided difference of opinion as to whether a contract at so much per foot or so much for the job has proved more satisfactory. The committee, however, is inclined to agree with one expert who says: "Where a fixed price by the job is made, a responsible contractor with a reasonable chance of a profit will turn out better work than when making a film by the foot. On the price per foot plan there is a constant tendency to slip in a few additional feet or pad a title or scene at so many dollars per foot."

5. *Ultra-rapid Films.*

a. Definition. The ordinary motion picture is taken at the rate of sixteen pictures per second and is projected at the same rate. The ultra-rapid camera makes it possible to take pictures at the rate of from one hundred and fifty to two hundred per second. The film is projected at the normal rate of sixteen pictures per second, which gives the effect of slowing down the action to one-tenth or one-twelfth of its normal speed. Hence the popular name slow speed film.

b. Extent of Use. The patents on the ultra-rapid cameras are very closely held and there are very few in this country. They have been used mainly in theatrical exhibitions, particularly in connection with current topics, reviews, comedies, etc. Some excellent work has been done in connection with athletic activities such as golf, football, basketball, track work, etc.

c. Possibilities. The possibilities of the ultra-rapid film for industrial training purposes are almost unlimited. No expert machine operator can tell the superb points of his own excellent

performance. If he tries to reduce his speed so the eye can follow, he loses the rhythm, and the value of the demonstration is lost. But take a picture at high speed and project it at the normal rate and the pictures will demonstrate these excellent points to the surprise of all, including the operator himself.

6. *Micro-motion Studies.*

It is almost sacrilegious to dismiss this great subject with a paragraph or two. The report would not be complete, however, without a reference to the studies made by Frank B. and Lillian Moller Gilbreth. The motion picture camera is used in conjunction with other very important instruments and methods of making scientific measurements and deductions. The negatives themselves are studied under the microscope. The purpose is to detect false motions and to train the operator to eliminate them. The results are matters of record, and the interested reader is respectfully referred to Mr. and Mrs. Gilbreth and their writings, for first-hand information.

7. *Microscopic Films.*

Strange as it may at first seem, motion pictures have added materially to the value of microscopic studies. It is well known that very few students get proper adjustment of the light, lens and object in microscopic work. Much of the real knowledge is obtained from drawings in the text rather than from the microscopic studies. The instruments are expensive and when supplied to a large class must of necessity be of the lower grade. But when a moving picture camera is connected with a fine microscope, with light, lens and object under expert control, the results recorded on the film compare with the expert's visualization of the processes. Then the finest results are seen by the whole class at once and no instruments are required. Biology, physics, chemistry and kindred subjects are being successfully taught in this way at the present time.

8. *Animated Drawings and Charts.*

It was stated in a previous section that ordinary pictures are taken at the rate of sixteen per second. The pictures are three-quarters of an inch in width and so are recorded on one foot of

film. An ordinary reel is 1,000 feet long. It is evident, therefore, that even with the most rapid action, an object could not be recorded in more than 16,000 different positions while a reel of 1,000 feet is being exposed.

As a matter of fact the rate of change is very much less than sixteen per second and, furthermore, only a few portions of an object change frequently. The majority of the subject remains stationary, particularly the background.

Animated drawings are thus merely pictures of drawings changed in whole or in part as the story progresses in order to give the semblance of motion.

Animated drawings were used first as cartoons, and all are familiar with the little men who crawl out of the artist's ink-well, perform some queer antics and then crawl back. But these animated drawings have more to offer in the matter of training than any other motion picture process. The basic value is in the emphasis that can be placed upon the point to be made. When this is coupled with a sound conception and logical development, the results far exceed anything motion pictures have produced in the matter of training.

Some highly specialized advertising films which have attracted nation-wide attention have utilized this process. The one hundred and fifty special letters tabulated by the committee referred to a film entitled "A Delayed Honeymoon." Two tires carried on the back of the car are made to tell the story of their life, which is very humorous and attracts much attention. In the city of Detroit alone, the picture was shown to 228,700 people. It is one hundred and fifty feet long and is usually attached to the current news film in the theatre.

The following are extracts from some of the comments made by garage men from all parts of the country, at whose request the film was shown often for weeks at a time in local motion picture houses without charge.

"Talk of the town—best ever seen."

"Sure great—any more?"

"Wonderful advertisement."

"Best motion picture 'ad' ever seen here."

"Business getter."

"Brought trade."

"Increased sales."

"Meant business to us."

"Brought new business and revived old."

"Noticed a change in business—put on another man."

"Have made sales I would not otherwise have made."

The exhibitors were also enthusiastic, though as a rule they refuse to exhibit advertising pictures.

It is possible through the use of animated drawings to show cross sections of anything from a steam cylinder to the workings of the human mind. The most complicated processes are made as clear as day. The possibilities from the training point of view are limitless.

9. *Distribution Methods.*

The weakest spot in industrial motion picture work at the present time is the lack of adequate distribution facilities. There is practically no non-theatrical distributing agency that can give really effective service. As a natural consequence the industries are making their own distribution through their educational departments, salesmen, branches, district agencies, local dealers, Y. M. C. A.'s, universities, colleges, schools, clubs, state boards of health, the Bureau of Commercial Economics and similar agencies. They are also taking advantage of expositions to find an audience. It is apparently a common practice for industrial concerns not only to lend the film without charge, but to pay the carrying charges and often to send a lecturer along to see that the film is well presented.

Such are the efforts now being made by the industries themselves in addition to the service rendered by the distributing agencies to secure the circulation that is so necessary to the success of a film. Our members would do well not to allow themselves to be oversold on matters of distribution for the present at least.

10. *Film Censorship.*

There is considerable discussion today over the question of censorship of films, and rather drastic legislation may result.

This discussion and all legislation growing out of it will affect theatrical films only. Those intended for educational purposes will undoubtedly be exempted and progress in their use will be augmented rather than retarded because of their more favorable position.

SECTION V—EQUIPMENT AND FACILITIES

1. *General Statement.*

The answers to the questions indicate that both industrial users and educators are fairly well equipped for showing motion pictures. The standard machines and better types of portables are used in about equal proportions. Practically all are equipped with a stereopticon. The kind of equipment varies with the individual circumstances. A few generalizations may be of value.

2. *Auditorium.*

While many concerns report having auditoriums readily available to the workers, it is doubtful if, as a whole, they are as complete or as accessible as they should be. Films are often shown in the shops and at times in the open air.

When the films are used for advertising or general propaganda purposes, the regular motion picture houses are more attractive both from the standpoint of size and accessibility to desired patrons.

3. *Projection Booth.*

If possible, a permanent fireproof projection booth should be installed. This means an outlay of from \$500 to \$2,000, depending upon whether one or two machines are to be installed for continuous projection, and whether a steel and asbestos or brick or reinforced concrete booth is built. The brick or reinforced concrete booth, built according to approved specifications and under close supervision is the surest guarantee against both fire and increased insurance rates.

The so-called portable projection booths, which can be bought for \$200 or less, made of steel and asbestos are usually accepted as satisfactory and with practically no increase in rates. This

booth is the best and cheapest to use in a hall already in existence. That it is well within the fire regulations is attested by the fact that several installations of this type are in active use in New York City theatres at the present time at practically no increase in insurance rates and with no objections from the fire department. New buildings should be equipped with a standard fireproof booth of the latest type.

4. *Projection and Projecting Machine.*

The basic principles governing motion picture projection are the same as those governing the showing of lantern slides. There are two main differences.

1. Motion pictures must be transported frequently, and they must be smaller than lantern slides because so many more must be shown in the same time. The screen is the same size or larger; therefore, the light must be much more intense as it passes through the film.

2. The pictures on a motion film must be passed in rapid succession before the lens. Each picture must be brought to a full stop, the light passed through it and shut off again, and the film started. This is repeated sixteen times each second. The mechanism is simple and can be mastered by anyone with a mechanical turn of mind.

The Committee would not recommend the purchase of a machine making use of any but the standard film. Hundreds of thousands of standard films are available, and the number is increasing daily. The number of narrow films is extremely limited.

The standard film is $1\frac{3}{8}$ inches wide with sixteen pictures to the foot and four perforations on each side of each picture. Each picture is one inch wide and three-quarters of an inch high. The projected picture is three-fourths as high as it is wide.

The machine selected should be large enough and should be so well lighted that the picture will be easily perceptible in all details by everyone in the audience. It would be well to secure the advice of a responsible projection machine concern before buying.

5. *Character of Light.*

Motion pictures require such intense light that until a recent date nothing but the electric arc was uniformly successful. Incandescent lamps have recently been developed that give satisfactory service when the distance from lens to the screen does not exceed one hundred feet. The incandescent light is much simpler in every way and its development marks a great step in advance. At present it is possible to obtain and use a 30-volt, 900-watt, or a 110-volt, 600-watt lamp. Any competent electrician can make the necessary adjustments.

6. *Screens.*

It is possible to obtain good projection on any light colored opaque and comparatively smooth surface. Many projection rooms are built with plaster screens. The best projection can be secured where a metallic coated or highly reflective screen can be used. Such screens usually require a frame. If the screen is to be folded or rolled, canvas coated with any opaque white filler will be satisfactory. Reputable motion picture apparatus concerns can be relied upon for advice as to size and kind of screen.

7. *Lantern Slide Projection.*

Taking all points into consideration, the committee believes that separate lantern slide equipment is better than a combination of motion pictures and lantern slides. The only advantage is that one light is used for two sets of lenses. But the adjustments necessary in making the transfer from one to the other detract very much from the advantages gained.

In this connection, the committee wishes to suggest that the claims made by manufacturers of machines that permit the stopping of the film for lecture work should not be considered as outweighing other advantages. A motion picture film that needs explanation while it is being shown is failing in its mission. If repetition is needed, it is a very easy matter to run the film through again. The committee believes that the disadvantages of this machine are greater than its advantages.

8. *Operation of Projection Machines.*

A moderate amount of mechanical ability and common sense are all that is required of the operator. The answers to the ques-

tion, "Who operates the machine?" include pupils, teachers, janitors, electricians, machinists, directors of education, etc., etc. If the laws require a licensed operator, have one of your own men trained and licensed. Some of the best projection is given by amateurs who take a keen interest in the job. Anyone who can follow a few simple rules can mend a broken film with collodian or even with New Skin.

SECTION VI—FIRE HAZARD

1. *Composition of Standard Films.*

All discussions regarding the combustibility of motion picture film should be prefaced with the statement that they are not dangerous when care is exercised. The answers to the questions regarding fire hazard reiterate this statement again and again.

Standard film is made of nitro-cellulose. Gasoline handled with impunity is more dangerous. Gasoline is volatile; film is not. Film will not take fire unless it is heated intensely or lighted by direct contact with fire. Most projection machines have an automatic shutter which shuts the light from the film when the picture is not in motion. The intense light, however, soon heats this shutter when it is stationary. The light should always be turned out when the film is not in motion.

Statistics show that 50% of the fires caused by motion picture films are due to smoking and 10% are due to handling the film around an open flame. Only two precautions are necessary:

1. Do not expose films to open lights or fires.
2. Keep all film stored in metal containers when not in use.

2. *Composition of Safety or Non-Inflammable Films.*

Safety standard film is cellulose acetate. It is much slower burning than the standard film. It is more brittle and wears only about half as long.

3. *Relative Combustibility.*

Standard film, being nitro-cellulose, burns quickly and decomposes with a heavy, black smoke. A fire once started is difficult to extinguish except with a large bucket of water or sand.

Safety film, cellulose acetate, burns like paper, or when com-

pacted together tightly, burns like wood. It is much easier to control or extinguish a fire where this film is used.

4. Fire Laws, Regulations and Insurance Premiums.

Fire laws and regulations vary in the different states and cities. In general, if it is the intention to make continuous use of motion picture films, it will be necessary to have a concrete or brick projection booth with swinging door opening outward and with projection apertures not over eighteen inches square. This standard equipment will not cause increase in insurance rates.

If a steel booth, fixed or portable, is used in a fireproof or brick building, insurance rates are usually increased ten cents per hundred on building and twenty cents per hundred on contents.

If the films are not exhibited more than two or three times a week, these increases are usually cut from one-half to one-quarter.

Certain miniature motion picture projection machines using only safety standard film may be used without booth and without increases in rates.

It is advisable to inquire carefully about local fire laws and regulations before purchasing equipment.

5. Storage of Films.

Most fire insurance policies now carry motion picture clauses with a warranty on the part of the insured that not more than 5,000 to 10,000 feet of standard film will be kept in the building at one time unless it is within a satisfactory concrete vault.

6. Influence on Progress in Motion Picture Use.

The committee's question as to whether fire hazard and regulations are detrimental to the use of motion pictures brought forth some rather positive statements in the affirmative. The consensus of opinion, however, was strongly to the effect that while fire laws and regulations may seem stringent, they are only reasonable and just and are not difficult to observe. When faithfully followed, the fire hazard disappears.

SECTION VII—EDUCATIONAL VALUE AND METHODS

1. *Value in Educational Work and Industrial Training.*

Industrial users and educators unanimously agree that motion pictures have distinct value in educational work. The following typical replies indicate the ways they have been found valuable.

From industrial users:

a. "They show industrial methods and production features of other industries."

b. "They make points clear that cannot be explained in any other way to ignorant or illiterate workmen."

c. "They have visualized a part of our home office to the field force."

d. "They have visualized technical processes."

e. "They have made it possible for every shop to have the services of our experts at a minimum expense and without charge to them."

f. "They have illustrated the action of high speed machinery by utilizing the ultra-rapid camera and then reduced so that the action is clearly seen."

From educators:

a. "Several times greater accuracy of impression."

b. "They visualize processes that the student could not draw upon because it is not in his apperceiving mass."

c. "Vividness. Some material can be shown in no other way."

d. "Getting the idea over without realizing it."

One man was so interested in the question that he wanted to write a theme; and another, a book. But neither one gave the committee an inkling as to the "big idea." Though not clearly expressed in the answers and though perhaps not fully appreciated, there are several important advantages in teaching by use of motion pictures.

1. Extreme concentration is made possible by shutting out everything but the picture. If the picture performs its work, this phase is almost ideal.

2. Impressions made through the eye are many times more lasting than through the ear. Some say the rate is twenty-five to one. Others claim that 93% of our permanent impressions are received through the eye. The committee knows of no experiments to support these views, but the general statement stands undisputed.

3. Efficient mass instruction is made possible.

4. Highly specialized technical processes and such abstruse or obscure things as mental processes may be visualized.

The committee agrees that a book might be written on this topic.

2. *Correlation of Films with Training.*

An earnest effort has been made by all users of films to correlate the films with instruction as will be evident from the answers to the question whether films and instruction were correlated in any of the following ways:

	Yes	No
a. By lectures preceding the projection of the films, explaining the contents and the processes.....	32	14
b. By lectures while the film is being projected	35	17
c. By lectures after projection	33	14
d. By distributing descriptive material in advance	16	25
e. By distributing descriptive material after projection	18	24
f. By combining films with definite courses of study	22	19

The Committee was surprised to find so many who lecture while the film is being shown. There was but one educator who branded the practice as unpedagogical. If it be admitted that impressions received through the eye are more vivid and lasting than those through the ear; if motion pictures are more attractive than blackboards, pointers and possibly teachers, why use a weak method to support and aid a strong one? The committee believes that the use of lectures, questions and discussions before

or after the exhibition of the film with reshowing as frequently as may be necessary to drive the points home, will yield the best results. Experimental data as to the best methods to use in connection with adult training by motion pictures are not at present available. A few experiments have been conducted with children, and while the results obtained are interesting, the committee would prefer not to draw final conclusions.

The Committee, however, is very strongly convinced that the human voice, the pointer used independently of the picture or any other distracting influence employed during the projection of a film, cannot but reduce the educational value of the showing. See to it that the films are logically planned and then let them tell their own story.

The Committee believes that motion pictures may also be made effective by distributing outlines or descriptive material in the shape of syllabi before the picture is shown.

Industrial users have not been very aggressive in attempting to combine films with definite courses of study. Their answers to the question on this subject show nine yeas and twelve nays. It is but natural that the situation should be reversed with educators who returned thirteen yeas and nine nays. There is room for progress along this line, and the industries would do well to watch the progress being made by educators.

Both industries and educators have tried to correlate existing films with present and proposed courses of study. Their success may be considered as ranking somewhere in the neighborhood of 50%. This apparent failure may be attributed to the fact that existing films are too general in their scope to be correlated with courses of study which must be specific. Much good work is being done, however, by specialists who analyze, cut, edit and assemble for educational purposes, scenes in existing films.

3. Criticisms of Present Educational Films.

The Committee sensed a general dissatisfaction with films which are being offered today as "educational" films and asked the question, "What criticisms have you from a training point of view on 'educational' films now in existence?" The following are some of the answers from industrial users:

- a. "Not sufficiently 'educational.' Producers haven't courage to include what they think is uninteresting even though educational."
- b. "Too amusing; not instructive."
- c. "Obviously artificial; unimportant points overemphasized."
- d. "Not strictly educational."
- e. "Some of them are not true to life and lack sufficient accuracy to make them properly impressive. Others bring in too much irrelevant matter and obscure the point being made."

Some of the replies from educators are enlightening on this point:

- a. "Nearly all so-called educationals need to be re-edited by actual teachers."
- b. "Too many of them are worked over and worn-out prints of theatrical films."
- c. "They are not real; they fail to show the processes very often."
- d. "More attention should be given to making films for specific subjects."
- e. "Gotten up by people who are not primarily educators."
- f. "Many films are not effective because of amateur work in production or general lack of ability of the producer to grasp the essentials of an educational film."
- g. "Not prepared originally for class room."

It is plainly evident that only a very limited amount of real training can be given by the use of existing "educational" films. They can be used to broaden the knowledge of the employe or student, but training films must be made under the close supervision of some one who appreciates educational values.

4. *Reactions of Employes and Students.*

Employes and students generally react favorably to motion pictures used for educational purposes. One educator gave the following unfavorable comment:

"They (the students) tolerate them if they cannot get to a

regular movie show. They need education in seeing films educationally."

The Committee feels that the fault in this case is not with the students but with the film selection.

Another educator said:

"Interested to the nth degree (nth is unknown of course.)"

One industrial user said:

"Less broken equipment, better shop methods, lower rate of accidents."

Another:

"Had a tendency to 'pep' up laggard salesmen."

The following comment by an industrial user is worthy of special consideration:

"In general, students react favorably to moving pictures because they are passive. In our night school, where the students are keenly aware of their interests as students, the reaction has been against using much of the instruction time for moving pictures."

These quotations give evidence of the fact that care and thought must be given to the moving picture program as well as to any other educational work.

5. *Subject Matter Adaptable.*

It would not be dodging the question as to what subject matter and methods are adaptable to motion picture production to answer "anything." The available topics range from a simple mechanical process to depicting an abstract idea. When one has seen a corn seed planted in the ground, has watched it germinate before his very eyes, then push its head up through the soil and its roots down, has seen the stalk and corn come to full fruition in fifteen minutes, he begins to think that anything can be depicted in the movies. The Committee suggests that the problem be put up to the movie man. He has actually pictured a trip to the moon.

6. *Programs of Instruction.*

Three industrial concerns have definite programs of instruction with films. Nineteen do not. Three educators have pro-

grams. Fifteen do not. It is quite possible that this lack of organization may be attributed to the lack of material and to faulty distribution, to which references have previously been made.

SECTION VIII—SUGGESTIONS

1. *Desirable Improvements in Motion Picture Industry.*

The Committee inquired as to the ways in which the motion picture industry might be improved so far as it relates to the production and distribution of educational films. The suggestions may be classified under the following heads:

a. Improvement in the content of films and producing staff	17
b. Improvement in distribution, classification, indexing, describing, maintenance of films, etc.....	14
c. Lowered cost of production.....	2
d. More educational films.....	1
e. Solution of narrow gauge and non-inflammable film question	1

Some of the suggestions were as follows:

- a. "A better classified index of educational pictures and pictures made particularly for their educational and instructional value, illustrating the principles as well as the generalities."
- b. "By showing picture house owners the value of educational films."
- c. "Many things are needed. Auditoriums under control of educational or civic organizations to control locally the promotion and exhibition of educational films would be good. Encouragement of agencies that honestly try to produce and distribute clean, wholesome films."
- d. "Put the work in charge of men who really know their subjects."
- e. "The main difficulty at the present time seems to be the lack of films to choose from and the inability to secure those wanted at the time they are needed. The cost also enters into the matter when considering an extensive program."
- f. "Production methods are excellent. Distribution in embryonic stage. Too many 'film libraries,' where your film can disappear forever on a shelf."

2. Clearing Experiences.

Some very interesting suggestions were received in answer to the question as to whether or not it is desirable to create a motion picture exchange for clearing experiences in the use of films. Twenty-two industrial users and fourteen educators answered in the affirmative; three industrial users and three educators said "no" or "wait awhile." The committee is of the opinion that this would be a good topic for discussion at the convention.

3. Industrial and Educational Film Library.

The answers to the question as to whether or not it would be desirable to establish a library of industrial and educational films for mutual exchange between industries and between industrial and educational institutions brought forth twenty-seven answers in the affirmative from industrial users and twenty-two from educators. There were five negative replies from industrial users and two from educators. While the replies seemed so decidedly in favor of the suggestion, there was a strong undercurrent of feeling that the time was not quite ripe. The Committee suggests that this matter be discussed at the conference.

SECTION IX—CONCLUSIONS

The Committee realized before it began its active study that it could hardly accomplish more in one year than to make a general survey, draw a few conclusions and leave the field open for further study. The report is based upon a wide range of experiences, including those of users of films in all branches of industrial life, educators of all classes and grades, and many producers of films.

The following are a few of the important phases of the subject:

1. Production Factors.

It is recognized that industrial educational work divides naturally into two major divisions:

- a. Education
- b. Training.

Education includes all those topics that tend to broaden the general knowledge of the employe and to give him a fund of in-

formation and facts that will be of general rather than specific value.

Training includes all those studies the aim of which is to train the individual to perform a specific job or jobs.

In applying motion pictures to educational and training work it is necessary to recognize two factors which are of basic importance in "getting the ideas across" to employees. These factors require radically different treatment in motion picture production.

a. Motion pictures intended for general educational work require an expert knowledge of how audiences normally react to motion pictures in addition to the mechanics of motion picture taking.

b. Motion pictures intended for training work require an expert knowledge of the technical processes of the subject to be taught and of the pedagogical manner of presenting these processes in addition to the mechanics of motion picture taking.

At the present time these two qualities are not combined in the average motion picture director and great care should be exercised in planning and producing pictures for training work to see that the theme and production are logically developed.

2. Lack of Educational Films.

While some films have been produced that have general educational value from the industrial viewpoint, very few, if any, have been presented that might justly be called industrial training films.

3. Distribution Methods.

Another weak spot in industrial motion picture work at present is the lack of adequate distribution facilities. Theatrical distributors are not particularly interested because the field is not profitable. Efficient non-theatrical agencies have not yet been developed.

4. Equipment and Facilities.

Much of the real value of motion pictures in educational work will be lost unless first-class projection is obtained. The best apparatus will be found to be the cheapest in the long run. Consult the reputable equipment houses regarding technical details before purchasing.

5. *Methods of Using Films in Educational Work.*

The use of motion pictures in educational and training work is in the very early stages of development. There is no experimental data available from which conclusions may be drawn as to the best methods of presentation and of the resulting values. It is apparent, however, to the most casual student that motion pictures, particularly animated drawings and charts and ultra-rapid films, have great potential value for educational and training work.

National Association of Corporation Training Committee on Visualized Training

Number.....

New York, December 27, 1920.

To Producers of Motion Picture Films:

The liveliest question in educational work today is "Can motion pictures be adapted to training and how?"

The following questions were prepared by the Visualized Training Committee of the National Association of Corporation Training for the purpose of securing and tabulating data from producers of films so that a comprehensive report on the subject may be prepared and presented at the conference in June, 1921.

The questions have been drawn to save time for the person who answers them. Many may be answered by "yes" or "no."

If desired, the questions may be answered on a separate sheet of paper if the numbers of the questions are carefully entered opposite the corresponding answers.

OUTLINE

- 200—General
- 210—Production
- 220—Distribution
- 230—Contractual Relations
- 240—Costs
- 250—Fire Hazard
- 260—Suggestions

200 *GENERAL*

- 201 Have you produced or assisted in the production of non-theatrical films for educational purposes?
- 201.01 How many of such films have you completed?
- 201.02 How many films have you produced for industrial concerns?
- 201.03 How many films have you produced for educational or similar institutions?
- 202 Please tell us how many films you have produced under each of the following headings:
 - 202.01 General educational.
 - 202.02 General propaganda.
 - 202.03 Advertising.
 - 202.04 Sales demonstration.
 - 202.05 Sales instruction.
 - 202.06 Shop methods—General.
 - 202.07 Shop practice instruction.
 - 202.08 Prevention of accident.
 - 202.09 Prevention of disease.
- 203 With whom have you dealt in negotiating for production or distribution of films:
 - 203.01 General Manager.
 - 203.02 Advertising Manager.
 - 203.03 Sales Manager.
 - 203.04 Educational Manager.
 - 203.05 Manager of Personnel.
- 204 Do you consider that motion pictures have distinct value in industrial education and training?
- 204.01 If so, in what ways have they proved more valuable than previous methods?

210 *PRODUCTION*

- 211 What facilities have you at your immediate command for producing films of a purely educational character? Please state under the following headings:
 - 211.01 Analyzing conditions and processes.
 - 211.02 Preparation of scenario.
 - 211.03 Educational advice to purchasers.
 - 211.04 Equipment.

- 211.05 Patent rights.
- 211.06 Animated charts and cartoons.
- 211.07 Slow motion pictures.
- 211.08 General directing.
- 211.09 Selection of scenes and assembling.
- 212 Do you make an effort to furnish technical service to companies desiring to produce their own films?
- 212.01 What is the character of this service?
- 213 Do you make it a practice to retain title to the negative for distribution purposes?
- 213.01 If so, what financial arrangements do you make with the producers?

220 *DISTRIBUTION*

- 221 Have you acted as distributing agent for educational films?
- 221.01 Give nature and scope of your distributing facilities.
- 222 What types of films have you distributed?
- 223 What reactions have you had from theatres regarding educational and industrial films?

230 *CONTRACTUAL RELATIONS*

- 231 Have you definite forms of contracts for the following conditions:
- 231.01 Production of educational and industrial films by your company.
- 231.02 Acting as adviser to industrial concerns which prefer to assume the direct supervision.
- 231.03 For distributing industrial and educational films to theatres, industrial, educational and other users.
- 231.04 For furnishing industrial and educational films to theatres, industrial, educational and other exhibitors.
- 231.05 Please submit sample forms.
- 232 Do you usually contract for the production of industrial films at so much per foot or at a fixed price for the job?
- 232.01 Which has been more satisfactory?

240 *COSTS*

241 In what proportion do the various items enter into cost of production?

Per cent

- 241.01 Sales expense.
- 241.02 Preparation of scenario.
- 241.03 Direction of camera work.
- 241.04 Acting.
- 241.05 Special wardrobe and properties.
- 241.06 Special set-ups.
- 241.07 Special lighting.
- 241.08 Transportation and traveling expense.
- 241.09 Editing.
- 241.10 Titles and inserts.
- 241.11 Negative printing and sample prints.
(Includes cost of films used)
- 241.12 Overhead and miscellaneous expense.

100%

250 *FIRE HAZARD*

- 251 In general, what protection against fire do you recommend to purchasers or users?
- 252 Have you had much difficulty with fire departments in arranging details for your customers?
- 253 To what extent has fire hazard and collateral questions, such as increased insurance, interfered with the use of motion pictures by industrial concerns, schools, colleges, churches, etc?
- 254 What projection equipment do you recommend to industrial concerns, schools, colleges, churches, etc.?

260 *SUGGESTIONS*

- 261 What points do you consider would be most valuable to an educational director in endeavoring to secure appropriation for motion picture films for educational work?

- 262 What, in your judgment, would be the best methods to pursue in promoting the use of motion pictures in industrial education and training?

Please return completed forms to

From	H. M. JEFFERSON, c/o Federal Reserve Bank,
Answered by	15 Nassau Street, New York, N. Y.

NOTE: The questionnaire sent to educational users is in exact harmony with the one sent to industrial users except that the word "education" was substituted for "business" and "students" for "employees," in every question where these made any difference. The question regarding the use of microscopic films was substituted for question No. 118.

**National Association of Corporation Training Committee
on Visualized Training**

Number.....

New York, December 27, 1920.

To Present and Prospective Users and Producers of Motion
Picture Films:

The livest question in educational work today is "Can motion pictures be adapted to training and how?"

The following questions were prepared by the Visualized Training Committee of the National Association of Corporation Training for the purpose of securing and tabulating data from industrial and educational users and producers of films so that a comprehensive report on the subject may be prepared and presented at the conference in June, 1921.

The questions have been drawn to save time for the person who answers them. Many may be answered by "yes" or "no."

If desired, the questions may be answered on a separate sheet of paper if the numbers of the questions are carefully entered opposite the corresponding answers.

OUTLINE

- 100—General
- 110—Production and Use
- 120—Educational Value and Methods
- 130—Equipment and Facilities
- 140—Fire Hazard
- 150—Suggestions

100 *GENERAL*

- 101 Have you used motion pictures in any manner in connection with your business?
- 101.01 If so, please indicate the motives for such use.
- 102 Do you plan to continue the use of motion pictures?
- 102.01 Have you any motives in mind in continuing their use other than those which prompted you to use them heretofore?
- 102.02 If so, what are these motives?
- 103 If you have not used motion pictures, have you considered the question of using them?
- 103.01 What considerations governed you in arriving at a decision not to use them?
- 104 What obstacles have you encountered in adapting motion pictures to educational work?
- 105 What is the function or title of the person responsible for instruction by means of motion picture films.
- 106 What has been your plan of distributing and exhibiting educational films?
- 107 Were your films produced primarily for educational work or were they used for training and education as an afterthought?

110 *PRODUCTION AND USE*

- 111 What were the sources of films used?
- 111.01 Produced especially for you?
- 111.02 Rented from distributing agencies?
- 111.03 Borrowed from Governmental, educational and similar agencies?
- 111.04 Borrowed from industrial organizations?

- 112 What has been the average cost per reel of films you have rented?
- 113 If the films were produced especially for you, in what proportions did your own organization and outsiders contribute to the production?

	% Contributed By You	% Contributed By Others
113.01	Outline or original theme	
113.02	Studies of technical processes	
113.03	Preparation of final scenario or working script	
113.04	General direction of actual taking of scenes	
113.05	Actors and actresses	
114	If the films were made for you, were they photographs of actual processes in the plant, or were the photographs made from special set-ups?	
114.01	If both were used, please indicate percentage photographed under actual working conditions.	
115	What has been the average cost per foot of completed negative?	
115.01	Have contracts at so much per foot or so much for the job proved more satisfactory and why?	
116	Please indicate in the form below the number and character of films you have used:	

	Own Production	Obtained from Other Sources
116.01	Purely theatrical.	
116.02	General educational.	
116.03	General propaganda regarding your industry	
116.04	Advertising	
116.05	Sales demonstration	
116.06	Sales instruction	
116.07	Shop methods—General	
116.08	Shop practice instruction	
116.09	Prevention of accident	
116.10	Prevention of disease	

- 117 Have you made use of the ultra-rapid (commonly known as the slow-speed film) in analyzing processes?
- 117.01 If so, with what success?
- 118 Have you made use of films in scientific analyses of operation—commonly known as micro-motion study?
- 118.01 If so, with what success?

120 *EDUCATIONAL VALUE AND METHODS*

- 121 Do you consider that motion pictures have distinct value in industrial training?
- 121.01 In what ways have they proved more valuable than previous methods?
- 121.02 Have the results obtained from the use of films justified the cost?
- 122 Do you correlate films and instruction in any of the following ways:
- 122.01 By lectures preceding the projection of the films, explaining the contents and the processes?
- 122.02 By lectures while the film is being projected?
- 122.03 By lectures after projection?
- 122.04 By distributing descriptive material in advance?
- 122.05 By distributing descriptive material after projection?
- 122.06 By combining films with definite courses of study?
- 123 Have you found it possible to correlate existing films with your present or proposed courses of instruction?
- 123.01 Have you any suggestions to offer in this regard?
- 124 What criticisms have you from a training point of view on "educational" films now in existence?
- 125 Has the use of films facilitated instruction?
- 125.01 If so, how?
- 126 Has the use of films shortened the period of instruction?
- 126.01 In what types of work have you had this result?
- 126.02 Approximately, how much has the training period been shortened?
- 127 What has been the reaction of employes to training by means of motion pictures?
- 128 What subject-matter or methods are most readily adaptable to instruction by use of motion pictures?

- 128.01 Please give a list of films which exemplify this adaptability.
- 129 What experiments, if any, have you conducted or participated in wherein the instructional value of motion pictures was tested?
- 129.01 Have you any available unpublished literature or statistics on this subject?
- 129.02 Do you have a definite program of motion picture instruction?
- 129.03 If so, please describe.

130 *EQUIPMENT AND FACILITIES*

- 131 Please describe your motion picture equipment under the following headings:
 - 131.01 Meeting hall and seating capacity.
 - 131.02 Projection booth.
 - 131.03 Type of projection machine.
 - 131.04 Character of light—arc or incandescent?
 - 131.05 Size and kind of screen.
 - 131.06 Facilities for lantern slide projection.
- 132 Do you own or rent the following:
 - 132.01 Meeting hall.
 - 132.02 Projection machine.
- 133 How accessible is the auditorium to the persons you are training?
- 134 Who operates the machine?

140 *FIRE HAZARD*

- 141 Have you experienced any difficulties with the fire department of your community?
 - 141.01 If so, in what way?
- 142 What kind of license or permit is required?
- 143 Has the use of motion pictures increased your fire insurance premiums?
 - 143.01 If so, how much?
- 144 Do you consider that fire hazard and collateral questions are detrimental to the use of motion pictures?

150 *SUGGESTIONS*

- 151 Do your experiences in the production of films for your own use suggest cautions regarding any particulars connected with their production?
- 151.01 Please indicate fully.
- 152 In what ways could the motion picture industry be improved in so far as it relates to the production and distribution of educational films?
- 153 Do you think it is desirable to create a motion picture exchange for clearing experiences in the use of films?
- 153.01 Have you any plan to suggest?
- 154 Do you think it is desirable to establish a library of industrial and educational films for mutual exchange between industries and between industries and educational institutions?
- 154.01 Have you any plan to suggest?

Please return completed forms to

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Answered by

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New York, N. Y.

foot reel is therefore \$50. The positive lasts for a maximum of 150 showings so that the charge per showing is 35 cents per reel or \$2.00 on a six reel production.

On a commercial basis with a film Exchange handling 1,000 subjects per week there will be a cost of \$3.00 per subject. This could be lowered with definite avenues of distribution. To this should be added the transportation charge to get the film to the place where it is to be used.

Thus with a six reel subject, we have a cost exceeding \$5.00 per day without allowance for any proportion of the negative cost.

Can you afford to use films on this basis? On the other hand we have lecturers, text books, stereographs and printed material. They are not as vivid and do not produce such concentrated attention. Determine your relative advantages and disadvantages and determine for yourself whether you can use motion pictures in your training and educational work.

Remember that the cost to show a motion picture to a thousand people is approximately the same as for one person and the cost per person is cut into a thousandth.

There is no doubt in my mind that, having witnessed the effect of such pictures as will be shown to you this morning, you will decide that you can easily develop motion pictures which will warrant the necessary expenditures.

MR. ROY L. DAVIS (American Cinema Corporation): The preceding speakers have touched upon the technical problems of motion picture production and distribution, but it seems to me that the principal thing that industrial concerns are interested in is the *educational value* of the motion picture.

I might frankly say, to begin with, that there are very few people who know what value, educationally, may be derived from the use of motion pictures in industrial training. Industry, as you well know, is interested in two training problems. First, the "general" educational problems, more or less common to all employes, i.e., Americanization, Morale Building, Company spirit, etc.; and second, the "specific" training problems. Motion pictures have been applied largely to the first phase of the problem. There have been produced in large number films for propaganda purposes; for advertising; for sales promotion; etc. An example of this type of films will be shown to you shortly. It was produced

by the National Cash Register Company to eliminate waste in production methods and will be especially pertinent at this time.

The average theatrical film produced for public consumption is not suited for industrial use, neither is a majority of the general propaganda or advertising films. In both these films the educational factor is only incidental, which has brought about the chief criticism from educators, both in and out of industry. Films that may be used for instruction—either specific or general—are unavailable. The entertainment features are stressed to the “nth” degree.

Some of the advocates of educational films, who believe that interest is the important factor, maintain that the “human” element so prominent in theatrical films must likewise be found in your educational film. They fail to realize that the industries are faced with the problem of training adult workers and not children. Their point of view towards the film is different if it is given the proper setting in the training program. Likewise your employees have previous experience, or perceptual judgments to build on, while in the children this is almost a negative quantity. Your employees on entering your factory come with either previous experience in some industrial activity similar to your own, or with a fund of experiences received in our educational institutions. With such a background of experience, either theoretical or applied, the things you can teach with motion pictures will vary quite decidedly from what you would use in the training of children. It is because of this differentiation between children and adults, between subject matter and between the methods of instruction that the motion picture film of the future will have to be developed. Whether or not the motion picture film will be a more economical way of conveying ideas is a problem yet to be determined.

There are certain advocates among the “visual instructionists” who maintain that the motion picture is a “Universal” language. Thus when you are transmitting instruction to an adult worker, say, about a particular job, it will be a much simpler process if you convey this instruction in a series of pictures, rather than resort to the usual methods of conveying ideas by words alone. Industry has been the first to adopt the plan of “learning by doing” and it is a serious question whether or not the motion picture will

eliminate much of this experience so essential in the learning process. I will leave that for you to decide.

The motion picture, or any visual aid for that matter, comes as a supplement to other methods of instruction. Wherever possible the method of "learning by doing" should be relied upon. This is not possible, however, when you have a large group of people to instruct; where the material of instruction or the processes are not physically present. It is then that the motion picture film may be employed most effectively in instruction. The motion picture is thus adaptable to the vestibule school, the apprenticeship class, a class in salesmanship, etc.

During the past year there have been numerous attempts to prove experimentally the value of the motion picture as an educational agency. None of this work, however, has been done in industry. All of these experiments have been conducted with children, whose reactions are quite different from those of adults. In two of the leading Universities of the country have been held parallel experiments in this particular field. One experiment is now in process of completion at Columbia University. It attempts to make a comparative analysis, through a statistical study of the value of motion pictures versus other more commonly used methods of instruction. The other experiment conducted under the auspices of New York University by the speaker has already been completed and comprises the bulk of a thesis for the doctor's degree. In the experiment, which was conducted in one of the large public schools of New York city, an attempt was made to find out what the children of the different ages actually saw in a motion picture. The data secured from the two controlled tests were carefully tabulated and from it one could readily judge what the children perceived when viewing a picture. Such information is especially beneficial if any attempt is made to produce motion pictures for the public schools.

These studies are only the beginning of other studies that must be carried on before we know the real value of the cinema. Industry will have to follow suit and do likewise, for their problems are entirely different from those presented in the public schools. There have been too many opinions already expressed on this subject. What is needed is more experimental data carried out under actual shop conditions to prove or disprove the value of the motion picture film. A step in this direction may be

made by those industrial organizations possessing films, by having the films re-edited for instructional uses. It is good business—and educational too—to let your employees know more about your products, your methods, your processes and your policies. The motion picture adapted to these problems should prove worth while.

Coming back to our original problem we find that industry is chiefly concerned in the training of its employees in the most economical and efficient manner. The question in all of your minds is whether or not the motion picture is the best way to accomplish this. The committee found that very few educational institutions and only one or two industrial concerns have regular courses of instruction. The motion pictures were used only intermittently during the lunch hour, after closing time, etc., but there was no definite attempt to make a tie-up with any regular course of training.

The committee wished to emphasize again the fact that the motion picture is not a panacea for all our educational ills. Neither will the motion picture supplant other methods of instruction found valuable for training. It is purely a supplement to other methods of instruction. However, if the motion pictures serve as a more economical and efficient method of instruction they are really worth while. Industry to get the greatest good out of the cinema will have to approach the problem experimentally. We are just in the beginning of this whole problem and much is to be developed and hoped for in the not distant future.

(Pictures were then shown.)

HERMANN LEMP (General Electric Co.): I have been very greatly interested in what has been shown to us this morning. I will briefly say that at the Erie Works of the General Electric Company we have been using films for educational purposes for some time.

It was stated this morning that one of the financial difficulties in the way of a more general use of motion pictures as a means of instruction was the absence of cheap projection apparatus, and in the report prepared by the committee it was also stated that the fire risk was a deterrent in certain states.

Now, several years ago, when we took up the matter, the question of obtaining a portable apparatus that could be introduced into small rooms and not necessarily into halls where large

audiences were congregated was felt to be very necessary, and at that time claims were made by certain makers of films—the makers of what are known as non-explosive films, the acetate of cellulose, instead of the nitrate of cellulose films, that they were the only films which could be used indoors without restrictions by the fire underwriters, and that the safety did not require the use of a booth and other perfectly proper precautions to protect against accidents which might come from the use of highly inflammable films.

I now understand that some users of films are using the standard highly inflammable film apparently without the use of a booth. I should like to get authentic information as to what is really the condition in respect to this situation today. We are using the Pathescope films at Erie, and we also use them in small exhibitions for educational purposes in classes, but they are not believed to be as easily obtainable as the regular standard film.

Are the fire restrictions removed from the standard film, when only low illumination is used, such as given by incandescent lamps, rather than by arc lamps?

MR. ROWLAND ROGERS (Picture Service Corporation): The report of the committee, with regard to the fire hazard, is comprehensive, and a very fair statement. I would refer you, first of all, to that advance report. Originally, a motion picture film went into the projector and then was allowed to gather in waste baskets or allowed to lie on the floor. There were open arc lamps in the machines. Frequently the operator smoked cigarettes. There was a real fire hazard. The newer projectors used today, however, are fireproof booths in themselves. This type is now used exclusively.

Practically all motion picture projectors, both professional or portable, have several or all of the following safety devices:

First: An automatic shutter which operates between the film and the light.

Second: The fire gate or shutter is adjusted so that if the film does take fire, it burns out only one frame of the picture.

Third: Should, for any reason, the fire get beyond the fire gate, it will be extinguished by the automatic rollers at the openings of the hold and take up boxes. Should the films catch fire and be stopped at the rollers, only about a foot and a half of the print will be burned.

Fourth: The take up and holding magazine are of metal and being of metal are fireproof containers themselves.

Fifth: The projector itself is a fireproof booth, being made either of metal or lined with asbestos or built of bakelite.

In other words, the danger from fire within a projector is very slight indeed. However, the fire hazard, in the case of a careless operator, who smokes cigarettes, and puts his reels down in a dangerous place where they may come in contact with a burning cigarette, is not removed. If you put fire up close to a film, it will burn, not explode, whereas in the case of benzine or gasoline the vapor will explode. That is a fair comparison. I do not know of any fire started by a motion picture film in the last three years. The fire danger, for all practical purposes, has been removed. You can ship inflammable films in a metal container through the U. S. Mail.

The coming of the nitrogen lamp does away with the open arc lamp in the projector for home or church or school. That is, where the throw is 75 feet or less, in some instances up to 100 feet, you can use a nitrogen lamp with very satisfactory results. With the nitrogen lamp the fire hazard is reduced to a minimum.

MR. LEMP: To a certain extent. We should like to know whether the authorities, permitting the use of the apparatus, still advise you to use the asbestos booths?

MR. ROGERS: There is no uniformity in the laws in all the 48 states. In the National Museum of Natural History in Washington, they permit them to use a portable projector with inflammable films; in Boston they require a fireproof booth, and also in Pennsylvania. In New York City and Chicago where the law is that you shall not exhibit the films without the fireproof booth, the fire authorities in both cities have conducted tests and have learned that the fire hazard has been largely removed, and they are openly countenancing the use of the portable projectors. Thus, you will see, that in many states the regulations are growing more and more lenient.

MR. LEMP: What do the fire underwriters say about it?

MR. ROGERS: In many states there is a rule permitting the use only of narrow width or safety standard films. That is the practice in Massachusetts—they say that the films shall not be over certain widths which rules out the regular standard film—

in other places you can use the standard film or safety standard, interchangeably, and others permit the use of the standard film only.

MR. I. B. SHOUP (Westinghouse Elec. & Mfg. Co.): As to Pennsylvania there is legislation against the use of inflammable films unless we have this paraphernalia to which you have referred. But the acetate of cellulose film with the small machine such as the Pathé, may be used without a booth, because of the fact that it is not highly inflammable. We have been using the standard film on portable machines about our works, in homes and halls everywhere. There is a movement on now to have the law changed, so far as Pennsylvania is concerned, in order that we may use portable machines with standard films without rigid restrictions.

MR. ROGERS: That refers, of course, to the small portable apparatus, operated by incandescent lamps, and not by arc lamps.

MR. SHOUP: Yes.

A DELEGATE: For over ten years I have been interested in the use of moving pictures for educational work in industry and I have used them extensively. I imagine we have used them more liberally than many other industries. Up to last summer, when we opened our new auditorium, that accommodates one thousand people, and is well equipped for moving picture work, we were carrying on five shows a week during the noon hour in five different recreational centers in our factory. Besides using the films for many purposes, educational and recreational, etc., we have found them to be of decided assistance in our labor problems. For instance, in building up the morale of an organization, and supplying the worker with interesting things to occupy his mind, we have found that the use of moving pictures during the noon time has been of great value especially as we have one hour for lunch. We spent fully \$2,000 last year on film rental in addition to using many free industrial films.

We have also found that many of the foreign born or those who speak English slightly are particularly fond of music and moving pictures, and by combining these two elements we have been able to do some highly profitable Americanization work. As a film talks in all languages we have found moving pictures of particular value in our Americanization work, not only for the few non-English speaking people in our employ but for many

others who are citizens and who are in need of Americanization work to a greater degree than the non-English speaking.

We start our shows at 12:15 and run to 12:55. During this time we can show four reels. One of these reels will be a travel picture, the second a film on some industry, Americanization, Safety, Health, etc., and then we run a good two-reel comedy. We sometimes alternate the travel picture with a News feature film. During the show we use an expert piano player to accompany the films and while the films are being changed we turn the lights on so that those who enter while a film is being shown, will take seats.

It seems to me that the utilization of the noon-hour for educational purposes for those who bring their lunch is worth greater consideration than has been given in the past. The great advantage of moving pictures in this work is their pulling power. No matter how indifferent an employe is to the inspirational work carried on in our industry, if he is anywhere near a moving picture show, especially if it is free, he will attend. Besides all the educational advantages mentioned in the committee report there is this direct advantage from a labor standpoint, in the use of moving pictures, it offsets the work of trouble makers of those who make a practice during the noon hour of gathering a small group about them to dilate on their troubles.

I have also found in carrying on classes such as safety engineering that by showing a film of some industry you can get the students to point out the hazards in that industry and the need for safeguards as the operations are shown. This applies particularly to films of the cotton and woolen industry where large amounts of machinery are used and where safeguarding has not been developed to so extensive a degree as in other industries.

MR. RAIBOURN: Before we leave this subject of fire laws and fire prevention, I would like to give a clear résumé of existing conditions.

There is a multiplicity of laws throughout the various cities and states and the fire underwriters quite often have different rules from the laws. However, as Mr. Rogers says, there is a laxness on the part of the authorities in enforcing the restrictions. The authorities realize that these restrictions were made at a time when the use of cigarettes and open fires around film was prevalent.

Statistics gathered by the U. S. Bureau of Education indicate that 60 per cent of the film fires were caused by smoking. This shows very little danger if ordinary precautions are used.

The rules and regulations have led to the development of safety standard and narrow width films for the portable projectors. These are comparatively safe, but as far as I can see the development of the future, there will never be a sufficient supply of safety standard and narrow width film to warrant installations of other than standard equipment.

Standard equipment means you must have either a portable metal booth or a concrete booth. The portable metal booth will cost between \$125.00 and \$300.00 according to your requirements. Although the portable metal booth is not allowed by law in all states, there is no place that I know of where any definite action has been taken against its use.

Standard equipment will be more satisfactory to you in the long run because your projection is going to be compared to the best theatrical projection.

MR. LEMP: Why is it that the so-called safety film is not universally used? Is it inferior? Or is there a patent monopoly behind it?

MR. RAIBOURN: As you know nitro-cellulose film costs about \$50.00 per reel. The safety standard cellulose acetate film costs slightly more and being brittle has approximately one-third the life. It costs about \$20,000 for a motion picture company to cover the United States with sufficient films to supply the demand. Increase of this item to \$60,000 on the basis of the same amount of use practically precludes the use of cellulose acetate film. It is entirely on the basis of economy.

MR. W. E. WICKENDEN (Western Electric Co.): When you say \$50.00—

MR. RAIBOURN: Fifty dollars a reel—per thousand feet.

MR. WICKENDEN: Do you mean, the entire cost?

MR. RAIBOURN: The positive will cost about \$50.00 a thousand feet.

MR. DON CARLOS ELLIS (Harry Levey Service Corp.): The comparative length of life of a slow-burning film and the standard or inflammable film, the Eastman Kodak Company very recently made quite exhaustive tests as to the lasting qualities of these two types of films as produced by them, and they claimed

80 per cent efficiency for the slow-burning, as against 100 per cent for the standard, a difference of only 20 per cent. Of course, that is under laboratory conditions. The difference between the two types of film is not as extreme as is usually supposed. The non-inflammable film is not non-inflammable, it is slow-burning, and, on the other hand, the inflammable film is not in itself explosive, it is a rapidly burning film, but it will not explode. It is a low nitrate and not a high nitrate. The gas from the inflammable film, when a large quantity is burning, and that gas is tightly confined, will explode, but that is a condition that will not obtain in a motion picture booth, but only in the storage vault. The explosions, of which we have heard in connection with films, have occurred after fire has started in poorly constructed storehouses, where gas has been developed under compression.

As I see the future of the non-theatrical motion picture, and I say this after consultation with a large number of representatives of the field who are very vitally concerned and are following the trend of the law very closely, I say this entirely without prejudice because I and the company which I represent are not interested parties in the controversy. We use both the inflammable and the slow-burning in our work, and the latter in both widths. The trend is towards the endorsement, by law and by the underwriters, of the use of the slow-burning film of standard size in the portable projectors. I think that in a very short time, general legislation will be to the effect that slow-burning standard size films can be used without a booth, and that a booth will be required only where inflammable film is actually used. That is the law in certain jurisdictions now and similar legislation is being introduced now in other states. The law in Pennsylvania is that you can use slow-burning films of professional standard width without a booth.

MR. SHOUP: Who makes them? We cannot find they make such a machine.

MR. ELLIS: They do.

MR. SHOUP: Not the standard machines—

MR. ELLIS: The Eastman Kodak Company and other film producers put out a standard width film in both non-inflammable and inflammable stock. The safety standard or narrow width film is put out only in non-inflammable stock, but the standard width is put out in both the slow-burning and the inflammable

film. Many portable machines are stamped with the statement, "This machine is for use with non-inflammable films." Slow-burning, standard width film can be used on any standard projector.

MR. SHOUP: The field for the films, as I see it, in an educational way, is largely a matter of building up morale, and perhaps inspiration—these two things. Education, training, is not a process of pouring in, and mere telling of a thing is not necessarily teaching. I know that we often try to get by with that kind of teaching of our students. We explain and explain, while our pupils go wool-gathering, or go to sleep, or do something else. We are not teaching. We have never taught anything until something is learned. We do not know that something has been learned until there is a reaction on the part of the learner, and something is drawn forth. That is teaching.

Now, showing pictures is a kind of teaching, it is like telling something to a class. It is interesting, it is entertaining, and perhaps recreational; we are sure it is interesting and entertaining, but what are the results? When it comes to real teaching or real training, or real instruction work, I am inclined to think that the film has a very limited use. Perhaps our instruction ought to be ten per cent telling and explaining, and ninety per cent actual working out by the pupils the problems that are set before them.

We cannot teach a man mechanical operations by moving pictures. We can give him ideas how they are carried on. When it comes to showing mechanical operations or views of the plant, such as we have seen here today in the case of the National Cash Register Company, or the aisle of the Westinghouse plant, etc., that is collateral education. It is good, and it is interesting, and we like to have it, but looking at pictures doesn't develop mechanics. By looking at pictures we do not learn anything about the processes of the analysis of steel. Likewise we cannot teach boys in an apprentice school how to file by means of moving pictures, we cannot teach them how to turn a taper on a lathe; we cannot teach them how to fit to a thousandth part of an inch or a ten-thousandths part of an inch. That is a matter of training; it is a matter of operation on the part of the pupil, and it cannot be accomplished by looking at pictures.

MR. A. A. KEISER (National Cash Register Co.): We have applied this method of film teaching of motion study to typists,

in the way of touch typewriting, and also in the way of enclosing mail, stamping the envelopes, etc. While we do not say that we have taught it exclusively through the film, yet the film has been of great assistance in teaching these things.

MR. ROGERS: We have been conducting in Columbia University a series of tests as to the comparative value of pedagogical films, compared with oral instruction. There was a class of seventh grade pupils (about 500) divided into three sections. Section A was taught by oral means, the old-fashioned method; Section B had twelve minutes of motion pictures, followed by oral instruction; and Section C had the oral instruction first, followed by twelve minutes of motion pictures, and then the groups were enlarged, so that at different times we had about 500 in Group A, 500 in Group B, and 500 in Group C. Group B in each case had the twelve minutes of motion pictures first, followed by the oral instruction.

What were the results? Group B passed examinations which averaged 22 per cent higher than Group A; Group C was four or five per cent lower than Group B and about 17 or 18 per cent higher than Group A. Is there any significance attached to this?

As compared with oral instruction, assuming that the test on 500 pupils is a sufficient number on which to make a generalization, the motion picture can put into a person's mind certain definite impressions which will react upon the memory and be retained for a time, at least, better than by word of mouth. Again, where you use the word of mouth description to create an impression, you cannot do it so vividly as by using the motion pictures; I will illustrate it in this way—let us all think of a dog—if there are a hundred persons here, we have one hundred different dogs, not all alike, they vary from the dachshund to St. Bernards, and from Newfoundlands to wire-haired terriers. If I show a dog on the screen for the same length of time it took me to say "dog", then we all have a standard, uniform and exact impression of the same dog, a black, limpy dog, with tongue hanging out of the mouth, etc. Then we are thinking in unison. If these tests which are still being conducted with a larger number of pupils prove anything, they prove that the motion picture has a certain definite value as compared with oral instruction only.

Another point—the motion picture will not actually teach a man to perform certain mechanical operations, or any other proc-

esses. That is self-evident, but you are teaching a man, and teaching a man's mind, as well as his hand. The National Cash Register Company is using the motion picture to teach their repair class how to repair National Cash Registers; that is, a man who is teaching apprentices by actual manual familiarity can teach only two or three at a time. They stand looking over his shoulder, while he is making repairs on the register. Two or possibly three men, can see. But where you show the image on the screen, fifty or one hundred, or any number can see.

The picture is so arranged that each of the parts is properly described in order, and its function shown so that the man gets a mental picture of what is done with that machine, and how it fits in with the other parts. Then follows up the actual manual teaching after the general idea is put into his mind, as to how to do that piece by piece and part by part.

The motion picture is clearly not a substitute for anything. It is a supplement, and a supplement merely to existing methods. It is a new tool, if you want to call it such, it saves time.

MR. F. P. PITZER (Equitable Life Assurance Society): The moving picture is the best teacher in the world. That has been proved to me very forcefully this morning when I saw, for the first time, how the engine in my auto works; had this lesson been given to me by word of mouth instead of by animated drawing, I would have slept soundly through it all. Nothing will put you to sleep more quickly than a technical explanation if you are not of a technical turn of mind. There was much technical information given out this morning, but it was given in an interesting way by an understandable method, by a short-cut process. If you are going to do away with motion pictures in education, you might as well do away with illustrated textbooks in schools. You probably know your geography, and you can visualize Italy more easily, because it is in the shape of a boot. Now, how much more will a student be impressed by seeing the pictures in his textbooks animated and the text illustrated. You can readily see the big advantage of this.

MRS. E. B. WHITTEMORE (The Spirella Co.): At a demonstration given in New Jersey to show the value of moving pictures for educational purposes in primary schools, the demonstrator gave much technique and told many stories, but the only thing that impressed and stayed with me was the following:

"Take for illustration a little girl; talk about another little girl coming to play with her and she will pay no heed, but if a child is brought before her showing action, you have her attention at once. Show a picture book, she will look at it for a moment and then toss it away. Let her see herself in a mirror playing with a doll and she will at once reach out and begin to play with her reflection."

This shows the value of action—the motion picture—to attract and retain attention, and only through concentrated attention can you educate. What is effective in the primary schools will be effective in the higher grades and in industry, for we are all only children older grown.

CHAIRMAN JEFFERSON: Up to this time the director of a motion picture production has been a theatrical man. Bear in mind that his main object is to produce an emotional effect on you, the spectator. The educator is interested in pedagogical sequence rather than with emotional effect. He is anxious to convince and, therefore, the picture must be logical. It would be a miracle if these two viewpoints were found in the same man. We believe, however, that they must be coordinated in educational films. Utilize the motion picture director because he knows how you will react to the things you see. Use the educational man in order to be sure that the steps are presented in logical sequence and that there is a sufficient amount of repetition to get the idea across. You will remember in "The Elements of an Automobile" that certain points were presented once and then again and again. This was done so that the points would be driven home.

MR. W. E. WICKENDEN (Western Elec. Co.): I move that a Committee be appointed by the Executive Committee to make some effort to get uniform laws respecting the use of motion pictures.

My company stands ready to expend considerable money in the field, but we find that we cannot use the pictures outside of the booths. We should like to use the pictures for educational purposes, to educate factory workers in safety first subjects, as we are one of the largest insurers in Workmen's Compensation in the world, and for that reason we would like to use the pictures in educating the workers in habits of safety, but we cannot do so, because we must carry around a portable booth.

In certain cities you can get by a lot of red tape by securing

permission from the local police authorities and the Fire Board to use the non-inflammable film outside the booth, but there is the question, what is the use of our spending money, if we cannot use the films other than in a limited sense?

CHAIRMAN JEFFERSON: Would it be in order to receive such a motion?

MR. WICKENDEN: I recommend that it is the sense of this meeting that the motion be presented to the business meeting on Friday morning.

(It was voted that the motion be presented at the business meeting.)

(The meeting then adjourned.)

LOCAL CHAPTERS

WEDNESDAY AFTERNOON—JUNE 8, 1921

MR. L. L. PARK, Presiding

MR. PARK: I want to express my appreciation of the work which has been done by the chapters for one of the most important things in the success of our Association is the development of our chapter work. As we strengthen our local organizations, we shall have just so many centers from which the influence of the Association can go out.

There are some distinct lines of activity which can be carried on by the chapters which it is hardly possible for the National organization under its present form to follow. Some of our chapters have done excellent work in bringing together a variety of interests to study specific problems, to develop programs, to define policies and to endeavor to work out a solution of the problems in which all are interested. This particular feature of our work may well be considered by the local chapters, and it is only as the chapters shall do that work that we shall be able to co-operate to any extent with other organizations.

The second point I should like to bring out is the taking up of definite projects, or what we might call the doing of laboratory work. Under its present arrangement, the National Organization is not in a position to do laboratory work to any extent. The local chapters, however, are in position to try out specific methods, to find solutions for problems by experiment and in such ways do some excellent laboratory work which will be made available for our members in the form of reports. The work which can be done in that line will strengthen the chapter by making its work less general and more specific, and perhaps securing the cooperation of a larger number of people.

MR. F. P. PITZER (Equitable Life Assurance Society): The only way you can reach anything worth while in chapter work is by getting strong, energetic workers to do things.

The question of meetings has been quite a serious one with our Chapter. I do not know how other chapters have fared, but we have tried many methods. We at first held our meetings in the office of a member company, at 8 o'clock at night, serving a buffet luncheon. That did not seem to work out so well be-

cause it brought our commuters home too late. Then we tried holding the meeting at an earlier hour in the office of a member company located in another section of the city. We met at 4 o'clock, and that did not seem to work out very well either, because it brought us too near train time or the dinner hour, and 4 o'clock necessitated our leaving the day's work too early.

This past year we tried visiting and meeting at various plants. On a certain day in the month we would meet, for instance, at the New York Telephone Company's plant and look it over, and see what we had to learn from that concern, but after a while we settled down to dinner meetings, which seemed very well attended. We would meet at a very comfortable restaurant and after dinner listen to a talk and then enter into a discussion.

I have not called the members of the Executive Committee of the New York Chapter together yet, but I shall do so as soon as I get back, and my plan is not to have dinner meetings. These dinners were not paid for individually, but we have paid for them out of the treasury. I am going to suggest that we meet in a certain place every month, get one of the large companies to set aside its board room, perhaps, for us, because we must have comfortable quarters. To be seated comfortably is very essential to clear thinking; cooperation too is a big factor in chapter work. It is not a one-man affair. Because a man is appointed chairman of a chapter does not mean that he must do all the work. Many give the job that interpretation. Each member should be as much of a chairman as he is, if you are a member of that chapter. Results can only be accomplished by suggestion and cooperation and working hard—when I say working, I do not mean for you to get up before the meeting and say, "I think it would be a good thing to have so-and-so talk at the next meeting;" but get up and say, "I have secured so-and-so to talk at the next meeting"—that is work, and the other is simply a suggestion.

There should be close cooperation between the chapters. I do not see why in Pittsburgh you should be talking about the use of graphs, we will say, and we in New York should be talking on job analysis, and not communicate the results of these discussions to each other. If we in New York discover something worth while, we should communicate it to Pittsburgh; and

if Pittsburgh finds something good, they should send it on to us. We should exchange minutes. We must get some benefit out of this for ourselves, because by building up ourselves we indirectly are helpful to our respective companies. Our membership in the Association must pay a dividend.

I should like to see each chapter have an employment section, one particular person looking after the employment of men and women. How will that work out? Suppose I know of a good job at \$5,000 or \$6,000 or at a lesser or at a greater figure, it does not matter if I cannot find the man in my vicinity, there is no reason why I should not go to you and say, "We have a job, have you anyone in your chapter?" Or perhaps a chapter member knows of some one who wants to come to New York and fill the job. That is an example of the interest we must take in chapter work. I should also like to see a chapter organ started. It is interesting to know why Mr. So-and-So has been transferred to another company. It is a pleasant thing to read about those we know. We can have a number of topics of an interesting nature covered in such a paper—we can have instructive and educational subjects covered, and then a section devoted purely to personal talks, so that we can keep in touch with each other and not miss out. We are all engaged in the same sort of work, and my big aim this year, with the assistance of my executive committee, will be to throw more individuality into chapter work and keep in closer touch with other chapters. Those are my views on the subject which has been assigned to me.

W. E. HOSLER (The Spirella Co.): Our plan, so far, has been to have a dinner meeting. We generally meet in Buffalo at one of the hotels. We always have a dinner at 6:30, followed by a general talk, by some one whom we secure from the outside. This is on a subject related to the Association work, and then we follow that with round table meetings. This year we followed a plan a bit different from that which we followed in the preceding year. We started last fall to divide our work into sections, so that we could limit the groups to two at each meeting. Before, we had as many as three or four groups, but it did not work out so well, as it was too confusing. At every meeting we had two round table meetings. The chairmen of meetings were elected at the organization meeting at the beginning of the

season, so that the chapter members knew in advance the dates of the meetings, the particular topics to be discussed at the round table sections. The only thing they did not know in advance was who the general speaker would be, and his subject. We left those matters to the discretion of the program committee from month to month.

I do not know whether we have worked out the most practical method. We have studied it pretty carefully, and as yet we have not thought of any other scheme that will work so well. We are very strong for the round table meetings.

We have felt that we have gotten more good from our after-meetings than at the general meetings. One of the values we place on the dinner idea is the social part. I am of the opinion that it has a very distinct value in chapter work. I believe that it is quite well worth the time and the money of every member of the local chapter to devote that extra hour and the price of the dinner, whatever it may be. Our dinners at the Iroquois Hotel last year cost us \$1.50—we paid anywhere from \$1.00 to \$1.50 a member, and each member paid his own way. From Niagara Falls we have to go to Buffalo either by trolley or by automobile, and in the case of those who go by trolley, the fare is \$1.30—a bit of an investment, besides the time.

I do not see how we could follow the plan of holding our meetings in the board room of a member company of the Association because our attendance is too large. I think our smallest attendance this last year was 40, and we ran up to 75 and 80. We felt the need of a banquet room. In the preceding year, when the hotel prices were prohibitive, we went to a less pretentious hotel, but we were not so well satisfied, because we could not create the proper atmosphere.

For this year we have not formulated any different plans, and I believe it is in the minds of the Committee members to start our next year's work in the fall under exactly the same plan. At one or two of the meetings, instead of carrying out the detailed plan of breaking up into sections, and having the group meetings, the topic discussed by the general speaker created so much interest that it was decided to continue the discussion on that subject.

We try to start our meetings at about 6:30 o'clock, which is

simply a call for the banquet and then adjourn promptly at 10 o'clock.

The program is made up and placed in the hands of all of the members at the beginning of the year.

MR. L. A. HARVEY: The plan of having groups has considerable advantage. If you have a round table group, you are pretty sure to bring out the members who are ready to talk—they may not care to talk before the larger group, but are ready to do so at a round table session.

There is certainly great advantage in having a program arranged at the beginning of the year, so that the members will know what is going on. It seems to me that the selection of speakers should be left to the President of the Chapter, both because that is the most natural thing to do and because such an arrangement would make it possible to take advantage of opportunities to secure speakers who are temporarily in town at the time of the meeting.

In a city like New York, if you go home to your dinner, the chances are you are located too far away from the meeting place to return, and if you have to get your dinner in town, you might as well get it with the other members of the group.

If we should have our Chapter dinners in New York in a hotel, the charge would doubtless keep many away; but unless the surroundings are congenial, the meetings are not likely to prove a success. This problem therefore should be settled by an arrangement with some club or by securing moderate rates at a good hotel. This is apparently what the Western New York Chapter has succeeded in doing.

MISS ANNE DURHAM (Federal Reserve Bank of Chicago): We have had only general discussion and have had no sectional meetings. The program dealing with the topics for the discussions is planned and printed in the fall. The speakers, the best we can obtain, are gotten just before the meeting. We have dinner meetings which are held at one of the clubs. The dinner costs \$2.00. For a while we tried to have them at one of the hotels, each one ordering what he chose. We found this plan too slow and for some too expensive.

We take up such subjects as Psychological Tests, work in laboratories in industry, etc. We have had at our meetings the two people in Chicago whom we think are probably the best

fitted to speak on laboratories in industry. We have Professors from the University of Chicago and the Northwestern University, and speakers from the public schools, and from the various industries.

At each meeting the subject is assigned and we attempt to select the member company that is doing considerable along that particular line and have their representative take charge of the meeting and provide the speaker.

MR. P. E. WAKEFIELD (Carnegie Steel Co.): From the inception of the Pittsburgh Chapter, the work of the Chapter has been carried on almost entirely in section meetings. Last year there were three active sections of the Chapter, meeting successively on the first and second Thursdays and the third Friday of each month.

Last year when we received a copy of the Manual that had been prepared for the guidance of local chapters, we discussed at some length the recommendations of this Manual regarding general meetings of the local chapters. Finally it was decided that each of the three active sections of the Pittsburgh Chapter should hold a general meeting of the Chapter on one of its regular meeting dates. This plan was not carried out, however, as only one of the sections held a general meeting of the Chapter. This general meeting was very successful and brought out the entire membership of the Chapter, enabling us to realize how big our organization really was. On the other hand, a general chapter meeting is too large and unwieldy to handle effectively some particular subject in which only a certain part of the membership is interested.

General chapter meetings and section meetings both have their advantages and disadvantages. It appears that a combination of the two is the most successful way to carry on the work of the Chapter.

The past year was the most successful that the Pittsburgh Chapter has ever had. On the date of the Annual Business Meeting, May 12th, we had 21 Class "A" members, 31 Class "B" members, 2 Class "C" members and 22 Chapter members, making a total of 76 individuals who were members in good standing.

MR. H. H. TUKEY (Submarine Boat Corporation): It has seemed to me that the chapters have had a very great latitude in the conduct of their meetings and of their work in general. Per-

haps this is for the best, but it seems to me it has developed a great deal of duplication of effort. We have at the present time a condition, I think, which might be characterized as a shotgun type of work. The chapters are doing a lot of shooting, but the shot is scattered.

We are all quite familiar with the condition existing in our committee work wherein the head of the committee, with a few other members, do the major portion of the work of the committee.

It ought to be feasible for the various chapters to undertake a planned discussion of the subjects now handled by sub-committees. We investigate some ten or a dozen different subjects each year. Any one of these subjects may be analyzed into at least six points for discussion. As we have at least six chapters I should suggest the possibility of outlining the subjects for discussion by the various chapters, all chapters to discuss each subject, but each chapter to be given only one phase of any subject upon which to concentrate its attention. The chapters might secure speakers who can competently present the phase assigned to them; this to be followed later by discussion. The results of these discussions could be submitted to the headquarters of the Association and the returns of all chapters there assembled into the form of a report. In this way our work will appear to be more constructive, more closely coordinated, and we shall create a greater interest in all the subjects our Association covers as against individual concentration on a few selected topics.

The scheme suggested may not be exactly applicable, but by some adaptation of it we should get a greater coordination of effort among the chapters.

It seems to me that we should regard the Chapter meetings and Convention meetings as assignments that we are expected to execute by our companies. Attendance is not a question of sociability—it is a question of business, and our interested attendance is simply the performance of a responsibility incidental to the positions we hold.

MR. I. B. SHOUP (Westinghouse Electric & Mfg. Co.): I shall explain the purpose and procedure of the Pittsburgh Chapter as carried out last year. There were three sectional meetings each month on the first three Thursdays as follows:

First Thursday Evening.—The Unskilled Labor and Americanization Section,

Second Thursday Evening.—The Industrial and Public School Relations Section.

Third Thursday Afternoon.—The Employment Plans Section (preceded by a 1 o'clock luncheon).

At the first meeting of each section in the fall the work of that particular section was laid out in detail and committees appointed to carry on various phases of investigation in relation to some particular topic with the view of finally bringing together the various reports and arriving at some conclusions. These conclusions, if it were deemed advisable, were then to be used as the basis for some immediate or future action.

This method of work was started a year ago last fall by the Industrial and Public School Relations Section. At that time the question of what employers want to know about prospective employees was taken up. That particular investigation was carried on among a large number of representative employers in the district. One hundred letters of inquiry were sent out and fifty replies were received on the subject. The investigation was continued further, particularly among the department stores by personal contact with the employers. From the information thus received a composite was worked out to report as nearly as possible what the employers really want to know, particularly of the persons coming from the public schools.

The report of the section was taken up by the public school authorities—in fact, the public school people were working with the industrial people on the investigation; the University of Pittsburgh and the Carnegie Institute of Technology were also represented.

Before the report was finally acted upon by the section, it was reviewed by a joint committee consisting of three representatives of the employers and three representatives of the public school system. In the latter group were the superintendent of schools, the principal of one of the high schools who was chairman of the Principals' Association, and the principal of one of the grade schools who was chairman of the Grade School Teachers' Organization. With the unanimous approval of the report by this committee, the public schools were already on record as favoring the entire proposition before it was finally submitted to them for their final action.

This report was taken up by the public school organization

with the result that we now have a bureau of educational measurements established, with a competent man in charge devoting his entire time to matters relating to the tabulating of characteristics, psychological tests, educational measurements, etc. In a number of years very valuable data will be available to employers regarding products of the school system. By the end of this year part of this information will be available for all high school students in the city. The information will later be available for all pupils down to and including those in the sixth grade.

This is considered a distinct advance in the development of relations between the schools and the employers and one that will be more valuable to both as the years go on.

This year the same section took up another project, that of an analysis of the situation regarding vocational training. The project was divided into three parts, namely:

1. Present vocational training in schools of secondary grade in the Pittsburgh District;
2. Present vocational training in the higher educational institutions of Pittsburgh;
3. The demands in the Pittsburgh District for vocationally trained people.

This third investigation covered all types of vocations, ranging from professions down to unskilled labor. The result of each investigation was presented to the section meeting in turn with an analysis of the situation as it existed in the field under consideration.

A general committee composed of the chairmen of the committees referred to was formed with the view to bringing together the information available through various sources and to drawing conclusions in regard to the whole problem of vocational training in the Pittsburgh District. When this was done, the report was presented to the superintendent of schools with suggestions for modifications necessary in the light of present needs. The report was welcomed by the public school authorities who took steps immediately to see that the information contained therein was made available to all employees of the public school system concerned.

Through the Industrial and Public School Relations Section, these definite, tangible results have been obtained and the way

opened for further cooperation with the educational institutions in the district. This work is important both to employers and to the schools because to the former it will make information available, and to the latter because of the incentive furnished the pupils knowing that their actual records are being tabulated and that these will be taken into consideration at places where they are applicants for employment.

The Unskilled Labor and Americanization Section has done a great deal in correlating the efforts of the various organizations in our district along this particular line. A program was laid out in the fall and meetings were carried on according to that program with the result that the Chamber of Commerce, the Public Schools, the Federal Naturalization Bureau, the Pittsburgh Chapter, many of the industrial concerns in the district and other organizations are working harmoniously toward the solution of problems incident to our foreign-born population.

The work of the Employment Plans Section was carried on differently from that of previous years. Whether we should take up some specific topic in relation to employment and personnel for discussion at each meeting, or whether we should have different companies responsible for different meetings each presenting its personnel work in its turn, was thoroughly discussed and the latter finally decided upon. Something like six or eight of the Class "A" companies in the district presented programs at the successive meetings, each covering its entire field. Among the topics discussed at these meetings were employment methods, group insurance and savings, medical attention, cooperative buying, etc.

This plan worked out to very good advantage. The interest ran high, and we had from thirty to sixty or more present at the meetings, representing some twenty-five or thirty different companies. It previously agreed that no minutes should be kept and on this account matters of a rather intimate nature, involving policies of the various companies, were talked over rather confidentially and in a way that would not have been possible if reports of the meetings were to have been published.

There remain many questions for the Pittsburgh Chapter to solve, and I feel that there is a broad field and a splendid opportunity for it in the future. My personal opinion is that better results are obtained by assigning specific investigations to com-

mittees and having them present their reports with some specific purpose in view than by having large meetings addressed by competent speakers on timely topics. The latter are no doubt valuable, particularly for the inspiration they afford, and I believe they should have some place in the annual program, but too much speech making will spell death to any local chapter, and the more substantial and abiding results will be obtained by having committees present reports on specific problems.

Afternoon meetings proved to be more satisfactory with us than did the evening meetings, owing to the fact that most of the people interested in this type of work are interested in many other activities requiring their time in the evenings. I see no reason why our respective companies should not appoint individuals within their organizations to attend these meetings as company representatives on company time and pay their expenses, especially when luncheon is served in connection with the meeting. These things were done to a very large extent in the Pittsburgh District with very good results.

CHAIRMAN PARK: I believe that each chapter has had some suggestion from the others as to the possibilities of chapter work. Personally, I like very much the project idea. That strikes me very strongly as a means of doing some definite work, the results of which you can show after you get through. It connects with Mr. Tukey's idea that possibly a program could be arranged by which the chapters, in the project way, could work up material for the annual reports.

MR. SHOUP: I suggest that the secretary of each chapter send a copy of the minutes of each meeting to the secretaries of the various chapters as well as to the managing director. The various secretaries should have these minutes, so as to present any matter of importance to their chapter members for consideration.

CHAIRMAN PARK: The completeness of the records of a chapter largely determines the carrying out of the suggestions which have been made as to the exchange of ideas between chapters. If each chapter can keep a fairly comprehensive record of what has gone on, and exchange that record with every other chapter, we shall have a very fine interchange of ideas, which I think will prove most helpful to our members.

(The meeting then adjourned.)

HEALTH EDUCATION

WEDNESDAY AFTERNOON

MR. L. L. PARKS, *Presiding*

The Report of the Committee on Health Education was presented in the absence of the Chairman, Dr. E. S. McSweeney. The discussion was postponed to a later period. There was an informal round table discussion of this report, but no stenographer being present this discussion is not included in the Proceedings.

COMMITTEE ON HEALTH EDUCATION

DR. E. S. McSWEENEY, *Chairman*

NEW YORK TELEPHONE CO.
New York, N. Y.

DR. CHAS. A. LAUFFER

WESTINGHOUSE ELECTRIC & MANUFACTURING CO.
East Pittsburgh, Pa.

DR. A. H. RYAN

SCOVILLE MANUFACTURING CO.
Waterbury, Conn.

DR. F. S. CRUM

THE PRUDENTIAL INSURANCE CO. OF AMERICA
Newark, N. J.

MR. M. S. PIERCE

HOOVER SUCTION SWEEPER CO.
North Canton, Ohio

MR. C. G. RICE

PITTSBURGH RAILWAYS COMPANY
Pittsburgh, Pa.

DR. R. L. ROWLEY

PHOENIX MUTUAL LIFE INSURANCE CO.
Hartford, Conn.

DR. G. L. HOWE

EASTMAN KODAK COMPANY
Rochester, N. Y.

DR. H. H. SATCHWELL

SUBMARINE BOAT CORPORATION
Newark, N. J.

DR. H. H. SMITH

AMERICAN ROLLING MILL CO.
Middletown, Ohio

MISS M. SIDNEY

R. H. MACY & COMPANY
Broadway and 34th Street
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DR. C. C. BURLINGAME

CHENEY BROTHERS
South Manchester, Conn.

MR. J. D. HACKETT

2 East 23rd Street
New York, N. Y.

REPORT OF COMMITTEE ON HEALTH EDUCATION

It has seemed to your Committee that the whole of its report at this session could not be devoted to a better purpose than in focusing attention on the need of concentration on the preventive medical side of our work, the term "medical" used as distinguished from "surgical."

It is not our intention to touch on more than the most evident and important features of the topic; to consider it exhaustively would demand too lengthy a report.

The relative neglect of this, by far the greatest opportunity of industrial medicine, can perhaps be explained in the light of the parallel general development and trend of medical practice the world over during the past forty years.

With the discovery and application of anaesthesia and antiseptics in surgery, a new era dawned. The public was told in many and varied ways of the remarkable progress in this branch of medicine; of the number of lives that could be saved; and of the great and lasting good that attended these wonderful advances; and the public was interested and its imagination aroused, and a very disproportionate view of the subject took deep root. Industrial medicine developed in this atmosphere, corporations began their work with an attack on accidents, and for years industrial medicine as it grew from its small beginning, meant surgery, first-aid dressing rooms, and lately, careful and intensive study of accident prevention and treatment. Inventors and scientists vied with each other in efforts to make foolproof machinery and mechanical safeguards of all kinds. First-aid corps were organized and public competitions held to keep up interest in anti-accident activities. Our workshops heard the slogan, "Safety-First" until it became a watchword to be reckoned with by the entire nation, and all this time medicine except as dispensary treatment, played but an inconspicuous role.

However, though attracting by no means the same attention or applause, a much greater movement was coincidently on foot for the protection of health, namely, the application of those principles worked out jointly by engineers and physicians, which

has at last come into its own as a distinct branch—the Science of Preventive Medicine.

To cite a striking example of results obtained let us consider the disease typhoid. Thirty years ago the typhoid death rate of Newark, New Jersey, was 70.4 per 100,000. In the last five years the rate is less than 5.7 per 100,000. This means a saving of many lives, mostly in the active working years. This story applies with small change in detail to every self-respecting community in Europe and the United States. Consider what one case of typhoid represents in length of illness, possibility of death, amount of nursing care and medical attention required, in disorganization of the household, danger to others, loss of wages, direct expense, suffering and long and costly convalescence, and then compare it with the case of appendicitis, and one may have a mental bird's eye picture of the comparative importance of advanced surgery and preventive medicine.

During the great war, surgeons did wonderful things, but was the work of the man interested in preventive medicine any less wonderful? Does the practical stamping out of the ancient scourges of armies suffer in comparison? It clearly does not.

Returns for 1914-1916 disclose that more than half of the insured persons in England and Wales receive medical treatment each year. The little that it accomplished by this vast volume of pill-doctoring stands out in sharp contrast to the results of a comparatively limited, cheap but intelligent effort along preventive medical lines.

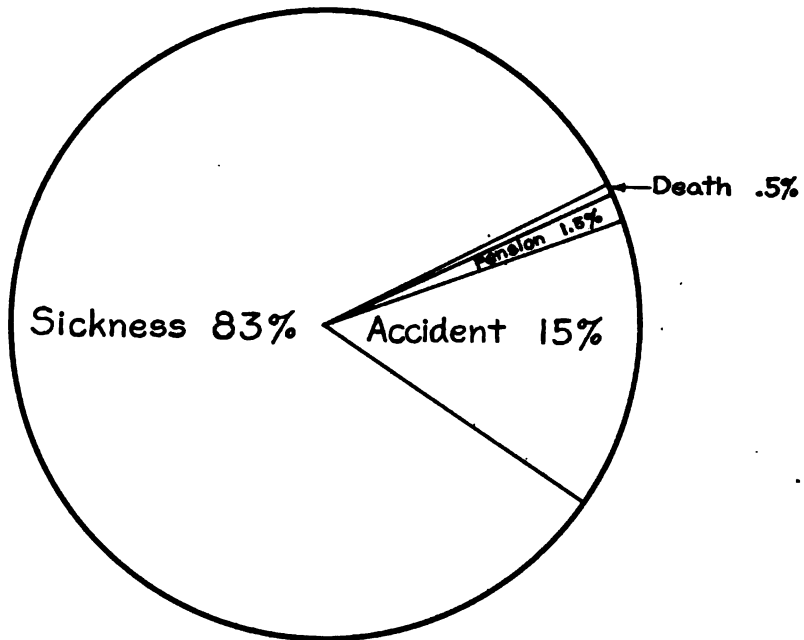
Federal investigations in 1917 told us that sickness caused six times as much disability as accidents, and there is no doubt that many accidents can be traced to half-sick employes, or to those who, because of sickness in their families, are tired and distracted.

The gathering of exact statistics on disability not compensable under present laws is difficult, but we have sufficient reliable data from which to draw at least general conclusions. Studies have been made by the Federal Government amongst its clerical forces in Washington; of a large manufacturing plant (lately published in the Public Health Reports of the United States Public Health Service); of a semi-rural county in New York State by the State Charities Aid Association, and of two urban groups

by the New York City Health Department (two surveys), and the Metropolitan Life Insurance Company. There are available, moreover, the experiences of many mutual sick-benefit associations, the largest of which has a membership of 80,000 industrial workers and mechanics (Workmen's Circle). Besides this, there are published or available reports of the sick, death and pension benefit funds of numerous corporations, one of which has records for the past eight years of approximately a quarter million eligible members.

From all of these sources we can draw the broad conclusion that the working man on the average, will lose nine days annually from illness, and 20 per cent of the force will have an illness each year which will keep them away from work a certain time. We know that 65 per cent of those ill more than seven days, the usual waiting period, will be back at work in less than four weeks; that 19 per cent will require from four to eight weeks; 7 per cent from eight to twelve weeks; 6 per cent from twelve to twenty-seven weeks; and that 3 per cent will be ill for more than six months, and 1.29 per cent for over a year. It is therefore possible to figure out the amount of illness to be expected in a large number of workmen. From the duration of the illness and the benefits given, it is easy to figure the cost.

We reproduce here a diagram which shows the case experience for 1920 of a New York corporation with about 45,000 employes, bringing out in a striking manner why the medical side of our work is most worth while. We believe it to be fairly representative.



For the respiratory diseases alone, the following admittedly incomplete figures are taken from the reports of the New York City Health Department. The report of the New York State Health Department, Volume T, No. 12, February, 1921, covering a population of 10,000,000, shows approximately the same percentages.

TUBERCULOSIS CASES

YEAR	NO. OF CASES	DEATHS
1916.....	19,297	8,411
1917.....	17,494	8,826
1918.....	14,439	8,770
1919.....	14,570	7,395
1920.....	14,035	6,165

LOBAR PNEUMONIA AND BRONCHIA PNEUMONIA

YEAR	NO. OF CASES	DEATHS
1918.....	135,949	20,628
1919.....	25,218	10,977
1920.....	69,824	10,058

INFLUENZA

YEAR	NO. OF CASES	DEATHS
1918.....	22,662	12,562
1919.....	10,379	4,834
1920.....	26,083	3,492

BRONCHITIS (CASES NOT RECORDED)

YEAR	DEATHS
1915.....	526
1916.....	853
1917.....	657
1918.....	12,562
1919.....	4,834
1920.....	3,492

Compare these figures with the time lost from occupational diseases as reported in California with approximately one-half the population of New York, for the year from June 30th, 1917, to June 30th, 1918, as recited in last year's report of this Committee.

The prevention of occupational disease is certainly of interest to us all, but what a much greater field awaits us in the prevention of a large percentage of the diseases of the respiratory group alone, legally non-compensable, but industrially far more costly.

As thoughtful men and women, we must realize that a yet greater field is spread before us than accident prevention, fine though this undoubtedly is, and it is more and more borne in upon us that the prevention and control of disease among employees of our great corporations is the most vital problem that confronts us. We are in position, moreover, to act as a missionary body, spreading the gospel of good health from the worker to his family and so to the entire community. Many agencies are striving to make an impression on the great mass of the public, but we are closer to our people. A wonderful opportunity presents itself for this Association to become the leader in the conservation of health and life.

Nor is this simply one of those things which we can talk about and shake our heads over.

Our problem is not one of research, but the application of its discoveries to active workers, and is therefore narrowed and made practical.

Professor Irving Fisher of Yale has repeatedly stated that the health movement can be far more potent than the safety movement because sickness is more preventable than accident. The National Conservation Commission estimates that 64 per cent or 630,000 deaths now occurring annually in the United States could be saved by applying existing and known methods of prevention. Already there is much to be done if we would only grasp the great and obvious opportunities. It is well to remember too, that all we accomplish has a double value, for what we do now for the young adults who make up the bulk of industrial employes, will undoubtedly mean fifteen or twenty years later for a large proportion of them, less arterio-sclerosis, chronic nephritis and kindred disorders.

It cannot be done by resolution or discussion. It will require the same intensive work and study that made accident-prevention so successful—the work which made “Safety-First” the national watchword. “Health-First” as a paraphrase may become as much more important to the community as the ratio of sickness disability is greater than that of accident disability.

The ground is prepared and there is needed but careful cultivation and harvesting. The tale of the common cup and towel, the value of dental prophylaxis, the sanitary barber shop, the anti-malarial work in the South, and many other like matters have familiarized people with the subject in a general way. We are not going to them with a new and unfamiliar proposition, and from a construction standpoint, we believe in general that plant provision for hygiene in factory and office is by and large well in advance of practice.

One method of control of disease among employes, the careful physical examination of all applicants is already well established. Of still greater importance is the periodical health survey of the entire force. Careful examination should be made and advice given to arrest or correct incipient conditions; to arrange for treatment of those needing care, and to lend moral support and encouragement to others on their pilgrimage toward health.

The officers of a corporation have a large part in this work, for it is to them we must look for cooperation and help. Enlightened management, however, is a commonplace, and it is with the minor supervisors that we should largely concern ourselves, endeavoring to teach them to observe and bring ill health to notice. Unless this is done in a sympathetic spirit and with honest intention to aid and not penalize the worker, there is no hope for success.

It is a truism that incipient cases of disease are as a rule easily helped, but we should endeavor to drive this lesson home and make everyone realize that if disease is not discovered early, the possibility of relief is much lessened, and oftentimes lost. More than this, the undiscovered case in a workshop or office may be a menace to others.

A tremendous fuss is made over measles, scarlet fever, small-pox and other acute diseases, but these are all self-limiting and usually well controlled by local health authorities, but the case assumed to be a "bronchial cough," but in reality tuberculosis, may constitute a danger to the health of a whole group.

Many corporations that maintain medical departments insist on employes presenting themselves for treatment of even the most trivial accidents, doing away with the old idea of first-aid care rendered by a foreman or fellow employe. In this way, minor accidents receive skillful treatment early, and serious consequences of infection or other complications are not allowed to develop.

A similar rule on minor sickness cases might well show brilliant results in heading off conditions before they become serious, and so shortening disability by advice and treatment from qualified physicians. Many respiratory conditions can be abated if seen early enough, and not only the individual case shortened but often shop epidemics averted.

The employe must be educated and encouraged to interest himself in his own protection. First-aid has been taught in nearly all our plants, offices and workshops, but only from the surgical or accident angle. First-aid in disease is of more importance and of infinitely more value both to the employe and the company.

Can we arouse as much enthusiasm in the prevention and control of disease as the first-aid team arouses with its instruction in bandaging, treatment of burns, handling of fractures and other surgical cases? We believe it can be done, but not by discussion or resolution. We all have a leaning toward the spectacular, and there is nothing spectacular in preventing the spread of an acute coryza, while all are ready to *applaud* the efforts of the surgeon occupying the full glare of the limelight for the emergency case. Sensible, persistent education and application of practical measures, however, we are convinced will bring results.

The most immediately pressing problem and that which offers the best field for quick and satisfactory results is the control of the respiratory diseases, major and minor. Let us use them as a concrete and familiar example.

From an industrial viewpoint, the loss of time from diseases of this group is appalling, and much of it is unnecessary.

Duplicating Listers' work in the South African mines, a large public utility, and a large life insurance company offered to their employes in the fall of 1919, vaccination against pneumonia. Approximately 1,500 persons availed themselves of the offer in each case. The results in both groups were about the same. One is quoted:

"Nine subjects in all were absent for one day or more on account of the inoculations, and the total absence was fourteen days. A very large percentage complained of local reaction consisting of soreness at point of inoculation, and likewise, a large percentage complained of symptoms of malaise, especially with the second inoculation, but it did not interfere with their remaining on duty.

"Of the 1,346 cases taken into consideration, 1,003 had been with the company two or more years, were fully eligible to sick-benefit payments, and accurate information could be obtained regarding them and comparison made with other employes not inoculated, in the same class, in whose cases also accurate figures were available. In these 1,003 cases there was one lobar pneumonia occurring in February, 1920. A second case not considered pertinent, occurred a year after the inoculation, in October,

1920; both in males. The pneumonia rate per 1,000 employes eligible to benefits during 1919-1920 for the entire company was:

MALES	FEMALES
4.5	6.2

or 5.5 for all, the total number of employes on whom the figures were based being 8,589 males and 11,246 females. Amongst those inoculated, the percentages were almost exactly one-third women and two-thirds men."

Compare the figures of the incidence of pneumonia as cited in the reports of the New York City Health Department (previously given), with a cutting down of incidence by four to the thousand, and figure the saving in production and time.

Every case of pneumonia presents a minimum of one month of lost time, many, much in excess of that, to say nothing of the death rate of from 15 to 25 per cent in these cases.

The incidence of pneumonia, influenza and bronchitis gives but a slight idea of the time lost even from the respiratory disease group alone, as far the greater proportion of disability is to the minor conditions which do not cause death, such as pharyngitis, laryngitis, and tonsillitis. In one corporation, figures show approximately one-third of all absences because of sickness are due to these causes, and this is probably the experience of all other concerns. What can be done about this? Individual hygiene, care in office and shop ventilation, so that plenty of fresh air without exposure to drafts is secured, and care as to sterilization of eating utensils can accomplish much. If anyone thinks the question of eating utensils is wasted efforts, he should go to the lunch rooms and the kitchens of public restaurants and to soda water dispensaries and see the slovenly way in which utensils are cleansed. We must convince those responsible that what is needed is the sterilization of these utensils to prevent the spreading of disease.

That better supervision of the health of employes shows steady gain in results may be deduced from the following extract from the report of the Medical Director of one of our large corporations:

"Most gratifying of all, there were 25 less new cases of tuberculosis discovered during this year than during 1919, although

the machinery for finding them has certainly been more perfect. This represents a diminution of 20 per cent over the previous year's figures and double the reduction accomplished in 1919 as compared with 1918. Considering the increased personnel, a reduction of considerably more than 25 per cent is indicated. This was not accomplished entirely by examination of applicants, though no doubt it had its value, but the main reason was that employes were sought out and examined, and when they presented the symptoms of pre-tuberculous state, before even the most keen diagnostician could make a diagnosis of tuberculosis, they were sent to a rest home for from one to three months, instead of waiting six months and sending them to a sanatorium for from six months to a year."

To hold our report within reasonable bounds, we have but sketched the outlines of a big subject and have touched on only its most evident lessons and opportunities. Applied in full measure, we have no hesitation in declaring that Preventive Industrial Medicine offers the one largest saving at present open to our membership by lessening labor turnover, decreasing pay for time not worked, and sick and death benefits, getting full value from everyone on duty, and saving the great indirect loss due to group disorganization by individual absence. An average employe who works steadily is, without question, worth much more than the exceptional one who is frequently absent.

We are told that "no greater love hath any man than he lay down his life for another." It is an equally great service we believe to prevent people from laying down their own lives, and only a little less to save them from sickness. If our fellow men be also our employes, it is no less meritorious because also economical.

EDWARD S. MCSWEENY, M.D.,
*Chairman, Sub-Committee on
Health Education.*

APPLICATION OF PSYCHOLOGICAL TESTS AND RATING SCALES IN INDUSTRY

WEDNESDAY AFTERNOON

PRESIDENT KINCAID, *Presiding*

PRESIDENT KINCAID: The chairman of the Committee on the Application of Psychological Tests and Rating Scales in Industry, Miss Oschrin of R. H. Macy & Company, Inc., is not here today and I regret this very much because we should like to have a lady present a report here. There are so many ladies present for one thing, and moreover, I heard her talk on this same subject a year ago and I know she is an authority. But in the absence of the chairman, Mr. Henderschott is going to present the committee's report. I trust you are going to read it because it is a very important report.

MR. HENDERSCHOTT: Last year Dr. Link presented a very able report which you will find in the volume of proceedings. Miss Oschrin accepted the position of chairman of the committee this year and has presented another report, perhaps as remarkable for its sanity as for its content as last year's report.

I presume there is no subject upon which there has been so much misrepresentation and about which so much mythology has grown up, with the possible exception of medicine, as there has around psychology and its application and it is because of this fact that we take a great deal of pride, the association does, in the committee report that was presented last year and in the report I am about to present for Miss Oschrin and her committee, as she is prevented by ill health from being here.

A great deal of this mythology is the result of the tendency of humankind to jump at conclusions. I recall distinctly that six months before Hugo Munsterberg died I met him and was talking with him in New York, and he said to me that one of the most remarkable things in his whole life was experienced when he published his book on "Psychology and Industrial Efficiency"; it was his intention in that book merely to call attention to a few experiments which had been made in the application of psychology to industry, but the public accepted it as a definite, conclusive science. Such a conclusion probably will not be reached within the lifetime of anyone in this room. Considerable empha-

sis along right lines has been given to the uses of psychology in connection with the War Department.

Now, of course, it is not possible, as is pointed out by all authorities, to apply the tests that were applied in the army in just the same way in industry, but there is no doubt in the minds of those who have carefully followed this development but what the degree of intelligence can be determined by proper psychological tests.

Someone said to me a day or two ago that he believed a person was just as unhappy in work that was beyond their ability as is the person who was doing work that did not give opportunity for the exercise of all of their ability. There is, of course, a sympathetic note for the man or the woman or the boy or the girl that has to come face to face with the fact that he is not an A man, or possibly he is a C or C minus man, whether he gets the fact through a psychological test or in some other way, because we are taking psychological tests every day and every week of our lives. With those who have gone through the process of elimination it does not necessarily follow that those men will be the most brilliant or will achieve the greatest individual success, because oftentimes the man who has the ability lacks the desire to apply it and the man with much less ability but with much greater desire will use what he has got to so much better purpose that he will far exceed the man with greater ability. But we come face to face with these tests every day. No one can deny it. A man is largely the architect of his own fortunes; if he has ability but lacks the desire to apply it, he is a good deal like the man who can read but does not read; he is no better off than the man who cannot read so far as his future is concerned.

The purpose of the report of the Committee on the Use of Psychological Tests and Rating Scales in Industry is this year a threefold one: *First*, to state the method of development of tests and to give a history of their current usage with concrete instances. *Second*, to determine the indications for the continued and increasing use of tests in their application to employment problems. *Third*, to make further report on the rating scale.

In order to obtain the information which would satisfy 1-b, 2 and 3 of these duties, information as to their practice in these connections was obtained from 172 organizations, both members and non-members of the Association.

The present report will treat of these matters in the order of their naming in the duties of the committee. It will begin first with an account of the method of development of tests and will go on later to report on the information gathered from the organizations interrogated.

COMMITTEE ON THE APPLICATION OF
PSYCHOLOGICAL TESTS AND
RATING SCALES IN
INDUSTRY

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REPORT OF THE COMMITTEE ON THE APPLICATION OF PSYCHOLOGICAL TESTS AND RATING SCALES IN INDUSTRY

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b. To give a history of their current usage with concrete instances.
- (2) To determine the indications for the continued and increasing use of tests in their application to employment problems.
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I. Psychological Tests

A. What Psychological Tests Are.

Any test may be a psychological test provided that, before the test is used to give information about an individual, a certain body of information shall have been gathered about the test itself. This information should establish the fact that the test does actually indicate the presence of a certain ability, aptitude or skill.

The use of tests, in order to find out about an individual what is not apparent in his speech or dress or the account which he gives of himself, is no new practice. Tests have, however,

generally been based merely on surmises that they indicated certain characteristics. Proof has been lacking. Psychology has supplied a certain technique which will find out, before a test is used, to indicate a characteristic, whether or not it actually is indicative of its presence.

It is a common practice, for instance, to give applicants for office work a test in arithmetic. The assumption is that a good figurer will make a good office worker. Recently this assumption was tested. About fifty office workers were given a test in the fundamentals of arithmetic. The good workers and the inferior workers of the group were known. When the work on the test was compared with this information, no correspondence was found. Some of the good workers made high marks, but just as many of the inferior workers made equally high marks. Low scores were likewise made by the good workers and by the bad workers. Apparently from this testing of the test an arithmetic test gives no information about the ability of people as office workers. It tells us only how many problems in arithmetic within a given time a certain person can do.

At the same time that the arithmetic test was given to this group a series of other tests were also given. Some of these tests did discriminate between the two kinds of workers, the good and the bad, so that all, or practically all, of the good workers made high marks, and the inferior workers lower marks. Such a test, after the amount of work which all of the good workers could complete within a given time had been ascertained, was used to indicate ability as an office worker, and could be relied on to do so with considerable accuracy, whereas an arithmetic test proved to be useless for the same purpose.

If a man who employed machine operators, for instance, should find, in the course of his experience, that all blue-eyed women became excellent machine operators, whereas all the brown-eyed or dark-eyed women were unable to learn to handle a machine, he would call it common sense in employing operators, to pick only women with blue eyes.

Ability to handle machines, however, or manage men or sell merchandise is not indicated by so simple a thing as the color of one's eyes or hair or any other trait of physical appearance. Abilities vary according to much more subtle characteristics, yet

the psychologist in his search for tests which indicate different abilities or aptitudes follows the same common sense method. He uses, of course, the exact measurements of the scientist in the place of rough and ready common observation. He tries to find some set of performances or tasks which will differentiate between a group of workers in the same way as they are differentiated by their actual ability at their job.

B. How Tests Are Developed.

Just how he goes about this has been implied in the preceding paragraphs. Generally the procedure falls into five distinct steps.

1. To become thoroughly acquainted with the job for which the tests are being sought and with the organization and people with whom he is to work.

2. To select tests which seem worthy of experiment in connection with this job.

There is no way of telling beforehand just what tests will indicate ability at a certain job. It has been said that any test may be a psychological test provided a certain body of information has been gathered with regard to it. Yet in selecting tests for experiment the trained psychologist will have certain preliminary requisites in mind. He will make sure that the tests which he uses do not unfairly take advantage of the people whom he tests. His tests will be of such a character that they will be uninfluenced by the age, schooling, experience or other variable factors of those tested. He will also, in selecting his tests, have in mind the needs and circumstances of the industry in which he is working. He will try not to choose tests that are too long or cumbersome and difficult to give or to comprehend, or that require elaborate apparatus. He will particularly have ease of administration in mind if many individuals will have to be tested in the course of the day. He will have in mind always the desirability of making the machinery of employment as simple as possible.

3. *Selecting the Groups To Be Tested and Obtaining Objective Criteria.* The next step is to select people against whose known ability the tests are to be checked. This group must be

large enough to afford an assurance of great statistical accuracy in the results.

Sometimes it is feasible to test all the workers at the job under consideration. In this case a relative standing of the workers must be accurately determined. All possible means of measurement should be used. Production records if available are essential, and the ratings of as many department or section heads as are acquainted with the workers under consideration. By combining all sources of information the workers may be arranged in an order of relative merit from best to worst.

Sometimes a department may be so large that it is inadvisable and unnecessary to test all of the workers employed there. In this case by combining again the information obtained from production records and department heads about the abilities of the various workers, it is possible to group these workers somewhat as follows:

- First group.—First-class workers.
- Second group.—Average workers.
- Third group.—Unsatisfactory or poorest workers.
- There may be more sub-divisions.

Importance of Reliability of Criteria. Whichever manner of classifying the workers is used, that of grouping them into various degrees of ability and inability or of arranging the whole group in order of relative ability it is absolutely vital to the success of the investigation that these ratings be as carefully and correctly made as possible. Not infrequently the success of an experiment has been marred because it was impossible to obtain accurate records of the ability of individuals or sufficient care was not taken to see that these records were reliable and represented a true picture of the various abilities of the workers who were tested.

4. *Testing a Test.* Having chosen the tests which are to be investigated and having obtained a true report of the varying abilities of the group of workers at the job for which the tests are being sought, the next step is to test the tests. This means

- (a) Under standard and constant conditions, to have the workers who have been chosen for the experiment take the test.

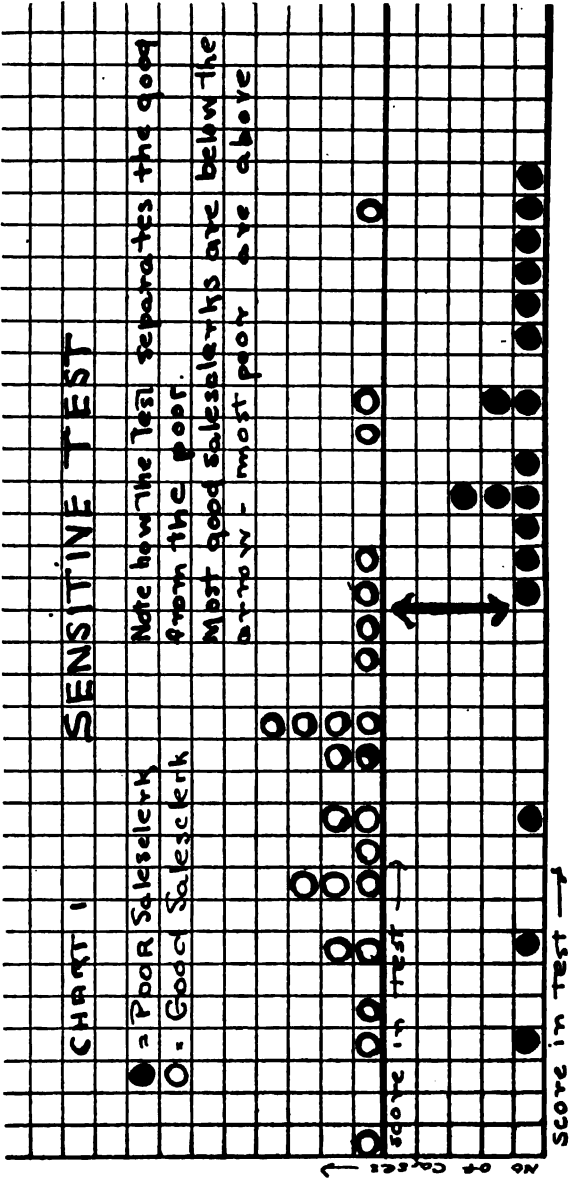
(b) To examine the results of these tests to find out if there are any tests in which the workers' performance on the test varies as their ability at the job varies. In other words, to see if the good workers make one kind of score, high or low, as the case may be, which is not made by the poor workers.

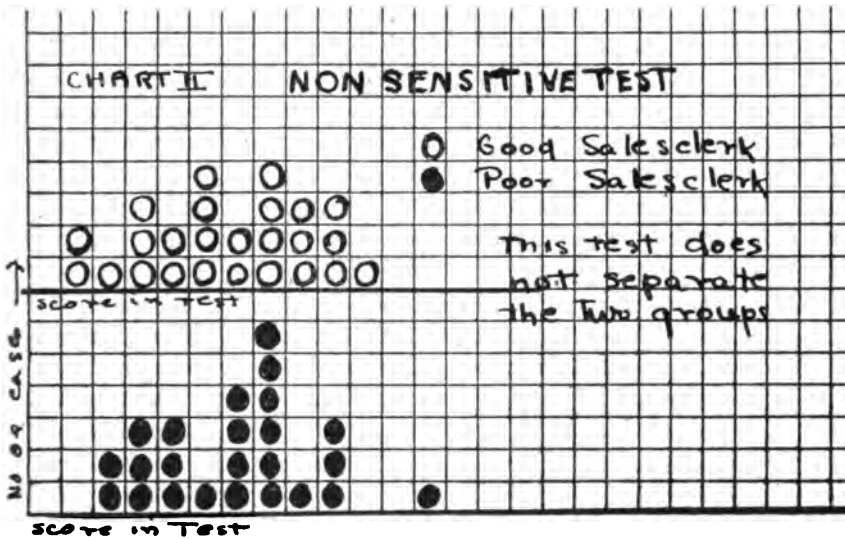
If such tests are found, they are sensitive to the ability to perform the job under investigation and may be used to indicate the presence of that ability in unknown individuals.

Tests which do not discriminate between the good and the bad workers in this fashion are of no value in prophesying ability and may be eliminated from the investigation.

One investigator has found it convenient to call tests which do discriminate between types of ability "sensitive" tests, and to give the name "non-sensitive" to those tests that do not discriminate between workers of differing abilities.

Chart I gives a picture of a sensitive test and the manner in which it separated a group of salesclerks into good and bad, in accordance with their actual ability as salesclerks. Chart II gives a picture of the non-sensitive test, a test which did not discriminate between these two groups.





5. *Application of Tests and Follow-Up.* The last stage of the experiment extends in a sense beyond the range of the experiment itself. It is the application of the findings of the experiment to the special needs of the industry for which the investigation is being conducted. If the tests have been sought for the use of the employment department, then applicants who are considered for the kind of work for which the tests are sensitive will be tested with them to indicate ability at that job. If the tests are for the use of the training department, the candidates for such training will be so tested. The tests may be used for both of these functions, and for other adjustments of personnel such as transfer and promotion, etc.

Wherever they are used, however, the final step consists in proving that the tests really indicate for individuals whose ability is unknown the same thing which they have been found to show for individuals whose ability is known. This means to follow up with an adequate rating system, and if possible a production record, the work of the unknown individuals and to check this work against the record they made in the tests. The labor turnover will also furnish useful information in this connection. Not infrequently such a check in addition to confirming the original

findings may provide the basis for certain revisions and refinements.

C. The Kinds of Psychological Tests.

Any test to which the technique outlined in the preceding paragraph has been applied becomes a psychological test. There have developed however, under this large heading, several kinds of psychological tests. These fall into two large groups.

(1) Tests of innate or potential ability;

(2) Tests for acquired ability.

1. *Tests for Potential or Innate Ability* indicate not the ability which the individual has acquired by the reason of special training, schooling or experience, but rather what he is able to do because of his own individual characteristics. Training and experience may further this ability but cannot instill it. A man who would be a salesman may have taken any number of salesmanship courses and may have tried for a number of years to sell and still be unsuccessful if he is not what is called a "born salesman." It is this very inborn quality that tests for potential or innate ability point out.

These tests in turn may again be divided into two classes:

a. Tests for special abilities such as that of salesclerk or proof-reader or assembler.

b. Tests for general or native intelligence. This means largely the ability to learn and to profit by new experience. Such tests have been variously named mental alertness tests, general ability tests, etc.

2. *Tests for Acquired Ability* test the result of special training, skill, experience or practice. These include

a. Trade tests. A trade test is a test oral, written or performance, which indicates the skill that has been acquired at a given trade like that of carpentry or tool making. It has been used to divide workers into classifications of expert, journeyman, apprentice and novice. Given at successive times it can be used to indicate increasing skill at a given trade.

b. Occupational tests are tests of the same character as trade tests, in that they test the ability acquired through training and

experience, but occupational tests have come to be associated with office workers, stenographers, comptometrists and the like, whereas trade tests are generally confined to shop, factory and machine workers.

c. Educational tests in the same manner test ability acquired through special training, but apply specially to the school subjects. Tests in grammar, arithmetic or spelling are educational.

D. Competent Direction for the Development and Application of Tests.

The work of developing and applying tests should always be carried on under the direction of a trained and competent psychologist. The development involves work of a technical character which is part of the equipment of the trained psychologist. To entrust such an investigation to anyone not adequately trained in this field is comparable to consulting for medical treatment a quack doctor instead of a registered physician, or to having bridges built without the aid of engineers. Because of the comparative recency of the development of applied psychology, especially as it is applied to industry, the number of trained technicians who are available for this kind of work is not large. The number, however, is increasing. For any organization which desires to secure the service of an individual who has had adequate training in this field the safest course is to consult with the head of the department of psychology in the nearest university.

The application of tests and their incorporation into the routine of an organization should always be conducted under the direction of a psychologist. Of course there is no reason why any fairly intelligent person cannot be trained to carry on the routine work of testing and scoring. Even the interpretation of tests may be to a large extent standardized; but, just as one would not leave the direction of a hospital absolutely to a trained nurse, just so is it inadvisable to let even the routine of testing to be carried on without competent direction.

E. The Place of Tests in an Organization.

The use and value of tests in an industrial organization need not be confined to the Employment Department. They are valuable in connection with selection for special training, transfers,

promotions and wage adjustments and have been used for all these functions by various companies. Wherever action of any kind that involves an individual is to be taken they provide additional and significant information.

II. The Present Application of Tests in Industry

A. The Extent to Which Tests Are Used.

Of the 172 companies who were interrogated, sixty-two used tests of some description in connection with employment, selection for training and other personnel activities. Of these sixty-two companies, however, only thirty-nine had standardized the tests which they were using so that of the companies which used tests, more than one-third had no data on which to base the judgments which they made as a result of the tests.

Last year the committee found that twenty-four out of the one hundred and eighteen companies, or 20% of the companies interrogated, used standardized tests. This year a slight increase is noted; thirty-nine out of the one hundred and seventy-two companies, or 23% of the companies interrogated, use tests. Psychologists are maintained by twenty-four companies in connection with this work, either as consultants or as a permanent part of the organization. The tests are used chiefly for pre-employment tests and for the selection for training of those already employed. Thirty-five companies used the test for employment purposes. Twenty-two companies found them useful in connection with training activities. Thirteen companies use the tests in connection with promotion and nine in connection with transfer.

B. The Kinds of Tests Which Are Used.

The test which is most frequently used is the test for general intelligence. Thirty-two companies use some form of this test. This test indicates, as has been explained in the paragraph devoted to tests for potential abilities, the native intelligence of the individual. By some the test has been called a test for general ability, by others a test of mental alertness. It has been found to characterize very closely the ability to learn new things and to profit by new experience. This test has probably been more

widely used than the others, because, by reason of its very extensive use in education and in the army, it requires less work than any other by industry to adapt it to its needs.

Thirteen companies report the use of tests for potential and special abilities. These tests include various kinds of work, tests for salesclerks, proof-readers, clerical workers, inspectors, assemblers and other types of factory operations.

Twenty-six companies use occupational tests, twenty-five companies some kind of educational test.

C. Concrete Instances of the Use of Tests.

One noteworthy case of progress with the development of tests for industrial use has occurred in a large department store in New York City. In two previous reports of the Committee have been given some information of the initiation of this work.

In the fall of 1917 a student in psychology obtained permission from this department store to carry on an experiment with the members of a training class in retail selling. The results of the experiment were promising. A report of that initial experiment was published in the June, 1918, number of the *Journal of Applied Psychology*. In the spring of 1919 the firm undertook to carry out this initial experiment on a wholesale scale with the view to verifying the results and making them practically useful in their organization. The work was carried out under the direction of the woman who performed the original experiment. The procedure which she followed was generally along the lines of the typical procedure outlined under the heading "Methods of developing psychological tests." The tests were primarily to serve the employment office.

It was found that immediately one kind of test could be made useful—the test for general intelligence. After some preliminary experimental work and the obtaining of standards from the tests of several hundred individuals, a test for general intelligence was developed and incorporated into the routine of the employment office. This test has one primary function, to weed out people who are mentally not sufficiently developed to carry on the work required in this organization. A very considerable percentage of such people are found among applicants. These people are popularly called the dull and the stupid; they form a

large percentage of the unemployed, and to a busy employment office present a real problem in consequence of their number and the difficulty of identifying them merely by speech or outward appearance. The test as developed is found a very effective sieve in weeding out such people. The test serves of course at the same time to indicate people of superior ability, and placement is also made with this information in mind. All prospective employes are tested (with the exception of dish washers, scrubbers, etc.). To date at least about 15,000 applicants have taken this test.

At the same time as this test was being used for employment purposes, experimental work was carried on with the development of tests for special abilities. The two kinds of workers specifically investigated were salesclerks and clerical workers, since these two jobs represent the bulk of the employes of this organization and are the ones which the employment office is most frequently called upon to fill.

In order to obtain information as to the relative abilities of the salesclerks the entire selling force was divided according to ratings by department and section heads, three in number for each clerk, into absolutely first rate, third rate and mediocre clerks. The production records for a period of almost three months for these salesclerks was obtained. From these data of production records and department and section head ratings, three groups of salesclerks were chosen for experiment.

1. Those who were consistently rated as above average salesclerks by all four ratings—the production and three department heads.

2. Those who were consistently rated as below average by the same four ratings.

3. Those who fell, by the same criteria, within the average group.

These groups of people were tested with a representative series of psychological tests. Care was taken that all the tests should be of such a character that they could be used in a busy employment office on a number of people at a time, and that they would seem simple and not distasteful to the people who are to be tested. Of these tests several were found which were sen-

sitive to selling ability. They differentiated between the individuals in accordance with the manner in which they had been separated by their quality as workers, by the various kinds of ratings. The findings were consistent through several repetitions with different groups.

The same procedure was carried on with clerical workers. These were workers at all kinds of clerical work, statistical clerks, stenographers, comptometer operators, order checkers, filers, etc. The common characteristic of their work was that they were all office workers. Here, too, several tests were found which were sensitive to clerical ability and which divided the clerical workers into groups of good and poor in accordance with the manner in which they had been divided by their actual ability at the job. Differences were also found between the kind of work done by salesclerks and by clerical workers.

The tests which are used have been constructed so that their content shall seem, to applicants, to be directly connected with department store work.

Applicants are tested first with the test for general intelligence, then if they are considered for either a sales or clerical position, are tested with the special ability tests, and employment is generally in accordance with the test's findings.

Careful follow-up with production records and department and section head ratings for all new clerks is carried on. The ratings occur one, two and three months after employment, and quarterly thereafter.

Preliminary work in checking with these follow-up records with test findings have shown a much higher incidence of failure among people who, although testing as non-sales, were employed as salesclerks than among those people employed as salesclerks whose test findings indicate that they would be good salesclerks.

The use of tests in this organization is not confined to the employment office only. Candidates for special training classes, classes in junior salesmanship, and classes for executives are tested. Cases of transfer because of lack of success in a department receive the advice of the psychologist as to the reason of the lack of success. Department heads have learned to use this department in many cases of personnel adjustments, for the selec-

tion of assistants, for recommendations as to special training, for information about people who are not succeeding.

Other tests, such as tests for comptometrists, typists and stenographers have been or are in the process of standardization. Interesting results have been found in the differences in general intelligence between the various kind of executives and the rank and file of workers. These findings are directly useful in connection with the appointment and selection of assistants and department heads.

All of the experimental work and testing of applicants and employes has been carried out under the direction of the psychologist with the assistance of two clerical workers.

A most interesting piece of work along similar lines was carried out in the summer of 1919 by a large Canadian rubber company. Tests for operatives of various kinds were devised.

A full report of this work can be found in the *Journal of Applied Psychology* for March, 1920.

Another department store in the East has recently begun, under the direction of a psychologist, to prepare tests to be used in connection with their personnel activities for the selection of junior employes, and for the assignment of juniors and adults on the basis of potential and special abilities.

A large department store in Philadelphia is continuing the work which it has for several years carried on. In addition to tests for general intelligence and potential abilities this department store has developed trade tests to indicate the degree of trade information about the various kinds of merchandise, shoes, silks, etc.

One manufacturing company in the Middle West which carries on a very extensive course of training has found a test for general intelligence exceedingly useful in classifying the members of their training classes into groups according to their ability to learn, so that they are able to put all the members into one class who can proceed at a like rate of speed. They have formed three classes, one each for the slow, average and quick learners.

A large manufacturing company in New England which was one of the first to carry on experimental work in this field, reports the continued use of their tests. Tests are used in this

organization for female gun assemblers, gun and cartridge and shell inspectors. All female applicants for stenography, typing, comptometer operating and general clerical work are tested. The tests are in each case made up of several tests, part occupational, part educational and psychological. The standards for the tests have in this company been obtained from not less than forty people and in one case from more than 400.

Another manufacturing organization in the northern part of New York State is carrying out a plan to test women operators in jobs where the operations are simple and repetitive with conditions practically unchanging and where a large number of employes are needed at each kind of work. Tests are selected for use which show a correspondence with the work of those old operators whose production records were available.

Two large manufacturing organizations have made interesting beginnings with tests for the determining of engineering ability and interest. The work at both of these companies is still in the experimental stage and the actual value of the tests with which they are experimenting is not determined, but the feeling seems to be that they are in the way of finding something that will be of real use in selecting, for extensive engineering training, men with the best engineering aptitude.

One of these companies has spent several years in developing tests for the different kinds of workers in their offices and reports the extensive use of these tests in choosing candidates for employment and training.

The United States Civil Service Commission is now employing in a consulting capacity one of the foremost psychologists in the country. "It is the conviction of the Commission that standardized tests may be advantageously used in industry and that expert knowledge which psychologists can contribute to the formulation and standardization of these tests is distinctly valuable."

An interesting variation in the application of tests is reported in a sporting goods factory where psychological tests for employment purposes have been extensively developed. The tests provided the means for settling a dispute about the current piece work rate of pay by giving valuable information about the group from the work of which standards for piece work rates had first been set.

The department store whose work with tests has been discussed at some length in this report found a use for the tests in still another way. It had been the custom to train for promotion to better jobs, juniors who were selected by certain "straw bosses." A high percentage of failure was reported among those selected for this special training. Investigation with tests disclosed the fact that the section heads, reluctant to lose their best workers, picked for training and promotion the least satisfactory and so were feeding into the training class a very poor quality of workers. Recognition of this situation led of course to its correction. Candidates for this class are now tested before their admission.

III. Indications for the Continued and Increasing Use of Tests

A. Present Feeling in Regard to Tests.

When interrogated as to the value of the tests which they are using and their future policy in connection with such tests, all of the companies who were using standardized tests reported that the tests had been found helpful and that they planned to continue in their present use of them. Two-thirds of these companies plan to extend the use of the tests.

All of the companies foresee the continuation of the use of standardized tests in industry.

Twenty companies who at present are not using tests report that they plan to do so within the near future.

B. The Right Method of Making Tests Useful.

In connection with its investigations the Committee has found two separate and distinct tendencies in the development of tests for industrial use. On the one hand there have been in the past year in addition to the companies who have for some time been working along sound lines for the development of tests, several new companies who have begun such work. They have fully recognized the fact that tests are useful and significant only after a fairly long period of preliminary investigation; that they have meaning only after they have been developed through a sound and conservative scientific technique. Having recognized these

facts, they have engaged an expert in this technique to develop such tests for their organizations.

This recognition of the necessary antecedent labor and the willingness to wait for results until after such labor has been performed, is of the utmost value to the healthy development of psychological tests and their real value to industry.

C. Mistaken Ideas and Methods.

The other tendency which the Committee has noted is one which, although it has resulted in an apparent mushroom like growth of interest in tests and the use of tests, is decidedly inimical to their development and the recognition of their real value.

Probably as the result of the great amount of popular and pseudo-scientific literature on this subject the Committee has found that a great many firms have been misled into accepting patent medicines in the shape of tests instead of developing tests in their own organization under competent direction. Some firms have procured tests at so much per hundred, which at appearance have seemed psychological. Having decided from their appearance that they would tell them thus and so about an individual, they have proceeded to use them for this purpose. Actually of course their test is of no more real use to them than any one of the old tests that in no way savored of the psychological. Other firms, although they have obtained tests which actually were of value in disclosing certain abilities, have neglected to place the administration of these tests in the hands of an individual trained in their administration and interpretation, with the result that the test form itself has often become corrupted, the details of administration changed in vital features or the results misinterpreted.

Not infrequently an individual with a limited knowledge in this field has tried to use tests which have been developed by psychologists not for industry but for other purposes. The tests which they have used have often been perfectly sound, but for industry they have been long and cumbersome, have needed a great amount of skill in giving and have generally been standardized only for children.

Whenever these tests have been given, the result is always the decision that psychological tests are too cumbersome for in-

dustrial use. The more extensive knowledge of the specialist in this field would have let him know of the existence of tests more flexible and shorter, easier in interpretation and with standards significant for adults and not children, or lacking such a test, an expert would have known how to develop one that would fit into the existing industrial machinery.

D. Dependence of the Future of Tests Upon Clear Understanding of Them.

In the light of its investigations the Committee believes that the future of psychological tests in industry is dependent absolutely upon the clear understanding by industry of one fact, that tests must be evaluated and standardized before they are significant. This is not infrequently a lengthy procedure of a very technical character and should be conducted by a trained technician in this field. The routine of the application of tests after their development may be carried out by unskilled office assistants but only under the direction of the psychologist. The Committee has found that only in such companies where a psychologist was actively at work did the tests play a really vital part in the organization.

Another matter which must be thoroughly understood before sound progress can be made are the limitations in the use and meaning of tests after they are developed. Psychological tests are not infallible. They are not right 100% of the time. Their virtue lies in the fact that they are more likely to be right and more often right than human judgment. The number of times they are right may be considered in a light somewhat paralleling the principles upon which life insurance rates are based. The degree of accuracy and the incidence with which they prophesy ability is part of the information which the proper statistical treatment of the test gives.

Test information is moreover not all inclusive. There seems to be some current opinion that users of them consider them so. A test gives information about certain abilities which an individual possesses. It does not give information about that individual's morals or health or physical appearance. All these factors must be considered in taking action of any kind. The inclination of the individual is also a factor which cannot be ignored, and so

the real value of any test information lies not in the exclusion of all other information, but in its coordination with all the other items of information to give as full as possible a picture of the individual under consideration.

IV. Rating Scales

A. *The Use of Rating Scales.*

Rating scales were found by the committee to be used by the companies interrogated for a great variety of occupations. Several companies report that they use rating scales for all positions. Other companies use rating scales for the following classes of employees:

Stenographers,	Technical apprentices,
Salesmen,	Laboratory workers,
Department store sales clerks,	Mill operators,
Telegraph operators,	Skilled mechanics,
Tool makers,	Foremen,
	Engineers.

Generally the ratings are made at regular periodic intervals in the employment of the individual.

B. *Value of the Rating Scale.*

Rating scales are used as guides chiefly in	
Hiring and placement,	Training,
Promotion,	Salary adjustment,
Profit sharing.	

Their value lies in helping to supply a better approximation to a real measure of the value of an employe than the old unrecorded, subjective judgment of the employe's immediate superior, which has been heretofore the sole source of information.

Rating scales require a recorded judgment, and the very fact that a judgment is to become a matter of permanent record will impel the rater to a greater exercise of care and thought in his ratings than an informally offered opinion.

Moreover, the mere act of making ratings causes department heads to take periodic mental stock of the men under them

and their various qualities, and when the rating forms have been shown to the workers themselves they have provided the opportunity for very healthful criticism.

C. The Drawback to the Rating Scale.

However, as rating scales have come more generally into use there has come the growing conviction that they cannot be taken at their face value—that they do not mean exactly what they say. The chief reason for this lies in the personal bias of the rater, the fact that every one, in making judgments has certain personal standards which result in an individual rating tendency. How men rate other men is influenced by many factors, their own age and experience and ability, the kind of men they have been habitually associated with, worked under or over. The infinite variety in the personal experiences and dispositions of individuals results in as great a variety in their standards of judgment. For example, one foreman, fairly young and relatively inexperienced, calls all of his men highly skilled workers, a second foreman, older and with great skill of his own, rates the same group of men as only fairly skilled. Both men have given an honest and candid judgment, and have tried to be without prejudice. The discrepancy is due to a difference in standards between the two foremen.

The history of the development of the rating scale is closely tied up with the growing recognition of the personal bias factor, and the various devices which have been brought forth to meet and overcome it.

D. Devices for Correcting the Drawback.

Generally these devices took the form of elaborations on the simple rating form. The controlling idea was some means by which the rater would be made more careful and thorough in his ratings. It was not until the event of the Army Scale that the fact was generally recognized that the personal bias error was a natural and inevitable error and was not to be met by devices to make the rater think hardly or more analytically, but was to be met in a different fashion.

The elaborations generally followed two lines. Jobs were analyzed into all the qualities which seemed essential or con-

tributory to success at them and various numerical, alphabetical or symbolical systems were devised to represent varying ranks in those qualities. With experience with elaborations of this kind has come the knowledge that they failed to meet the purpose for which they have been devised, namely, the personal bias factor, and the realization that they have led into new evils.

E. Number of Items.

The items or qualities which can be and have been called essential to any one job is almost unlimited. Consider such a list as has been gathered from a typical set of rating sheets, for instance. Neatness, system, interest, appearance, manner, reliability, loyalty, cooperation, physical condition, vitality, initiative, knowledge of work, skill, quantity of work, intelligence, ambition, adaptability, judgment, experience, personality, perseverance, future value, discipline, attendance, leadership, character and habits, etc. Almost any or all of these qualities might apply to any job, and, whereas, for some kinds of work a long list of qualities may be desirable, for an actual working scale it has been found advisable to limit the number of items.

Investigation on this point has found that what a rater generally does in handling any scale is to have a general synthetic impression of the person he is rating. This general impression influences the ratings of the separate items, surrounding them in the mind of the rater with an aura or halo. There is in consequence generally a close correlation between the ratings given to each separate item. As the number of items increases and the act of rating becomes more laborious this tendency is naturally emphasized, so that what one frequently gets with a longer scale is not more careful and detailed information, but a repetition of the same information.

Since five or six items will give at least as satisfactory a picture of an employe's character as ten or more, evidently the smaller number is better, particularly since it has the added virtue of being less laborious both to make and to read.

F. Kinds of Ranks.

The manner in which the items are ranked is many and various. Some scales use a number system 10, 9, 8, 7, 6, etc.;

10, 8, 6, 4, 2; 5, 4, 3, 2, 1; 95, 85, 75, 65; or 1, 2, 3. Other scales used are alphabetical classification, A, B, C, etc., or E (excellent), G (good), F (fair), P (poor). The difficulty with systems like this is that they are not simple and direct in the information they convey, and not infrequently have a different meaning for every person who has cause to use them. Often the scheme used is reminiscent of the marking schemes of the last school attended by the person who has devised the scale. Generally the person who reads the rating is also influenced by the system used in the school which he attended. The two schools may have used wholly different schemes. One school will on a 10 to 1 scale consider 75 a passing mark, another in the same city perhaps will call 6 a passing mark. Naturally to two people who have attended these two schools a rating of 75 will mean wholly different things. Attempts have been made to control this by instructions which define the actual meaning of the number or letter. This, however, increases the labor and speed of making ratings. One company indeed uses three typewritten pages of instructions to define rating ranks. The Committee believes it exceedingly doubtful that raters can have all of this material in mind when they make their periodic ratings without consuming an entirely disproportionate amount of time on the ratings.

The logical way to rank a quality seems to be directly as people think about it, in the terms in which they do their thinking. Actually when anyone is called upon to judge the industry, for example of an individual, he thinks of that person as exceedingly lazy, or as managing to get by with his own share of work, or as being industrious, as the case may be. He does not think of the person as being A, B or C, or 10, 9, 8, 7, 6 or in any other symbolic fashion. When we ask a man to give a numerical rating and then when a second individual interprets and acts upon that rating, what probably happens, provided their standards are the same (and this is not at all likely), is something like what follows.

1. The man thinks
 1. This person is lazy
 2. That means a rating of 6.

2. The second person sees the rating and thinks
3. This man's rating is 6
4. Therefore he is lazy.

There seems to be every advantage in using the more direct method of actually having the rating in step of the above process, where it will need no interpretation. The Committee has noted with a great deal of satisfaction that a large number of firms are resorting to a scale of descriptive adjectives of this kind rather than the number or symbol scale.

G. Number of Ranks.

Some scales have used only three ranks for a quality, others have as many as ten. It is exceedingly unlikely that any individual is able to distinguish as many degrees of a given quality as this. One scale submitted, for example, expects the rater to rank a man's initiative as either hopeless, unsatisfactory, unsatisfactory plus, fair, average minus, medium, good, superior, commendable, exceptionally good, very rare. It is doubtful whether any two men uninstructed would place these ten grades of initiative in this same order, or whether good, fair, or superior initiative would mean the same or nearly the same degree to them.

The number of ranks which are given to an item will necessarily vary with the item under consideration. The best guide, we believe, is how people and, in particular, those who are to make the ratings, actually think about the quality under consideration. If this is kept in mind, together with a consideration of how the rating is to be used and what action will result from various kinds of classifications, the number of ranks will be kept within meaningful and useful bounds.

H. The Army Scale.

The Army Rating Scale, by its man to man comparison, has met the personal bias factor, and has largely eliminated the abstract numerical rating with its consequent inaccuracies. This scale has had a profound influence on the rating scales used in industry. Many organizations have copied it almost completely.

The general result of experience with the army type of scale, however, has been the recognition of one serious shortcoming. It has met all of the requirements discussed to this point, it controls the personal bias factor, has only a limited number of qualities and ranks for those qualities and it dispenses to a great extent with abstract numerical ratings. A high degree of consistency has been found between successive ratings by the same person and ratings by different people.

In actual use, however, the scale has been found somewhat unwieldy and cumbersome. It calls for an amount of preliminary deliberative thinking which is not always to the taste of the individuals who use it. Particularly is this true when ratings are made, as they most frequently have need to be, by the men on the job—foremen, section heads, buyers,—people who are essentially not desk workers. Such people simply “don’t like” to do what the instructions tell them to, and unless watched, cannot always be relied upon to go through the comparison process with every person they are rating. The tendency is strong to slide back into putting down 10, 8, 6, 4, or 2 without making the comparison with the men who make up such a scale. Naturally any rating system which uses a scale to which the raters are antagonistic and which they cannot be relied upon to use correctly does not meet all the requirements of a good rating scheme.

I. Essentials of a Good Rating Scale.

We come then to a consideration of the essentials of a good rating scale. From the foregoing pages it would seem that a significant and valuable rating scale would possess at least the following features:

1. The scale should control the personal bias tendency.
2. It should call for simple, direct and natural thinking. The rating should be a naive expression of opinion in terms in which the rater actually thinks. This implies that
 - (a) The number of items or qualities should be limited.
 - (b) The number of ranks should not be greater than are actually distinguishable and meaningful to the rater.
 - (c) The ranks should be expressed in adjectives or words rather than in a numerical, alphabetical or symbolical system.

3. The administration of a rating system should be simple, therefore the rating form should be

(1) Easy and quick to fill out.

(2) The operation of rating should not be distasteful to the rater.

4. Successive ratings by the same rater or ratings by different raters of the same employes should show reasonable consistency.

J. The Graphic Rating Scale.

The graphic rating scale, the most recent development in rating scales, meets most of the above requirements. This scale has two significant variations from the older scales.

It represents the qualities or items by lines rather than phrases. The extremes of the line represent the extremes of the qualities under consideration. Phrases at the ends and at points along the lines describe the quality in the terms in which they are actually thought of. Ratings are made by placing a check mark at any point along the line which seems most descriptive of the person rated.

Ratings in this manner are simple and direct and can be made quickly. The whole operation is easily grasped by any kind of rater.

The personal bias of the rater is controlled in the following fashion. Raters check the rating sheets for the group of workers under their control. The sheets are returned and a clerk with a stencil gives a numerical score to the check and obtains in numbers the total rating scores. On a spot card is kept a graphic record of all the scores which a rater has given. From such a card it is possible to determine quickly the rating tendency, whether the individual is optimistic or rigorous in his judgment of others. The raw scores are corrected with this information and the rating of the employe interpreted in terms of the average worker. The average worker is represented generally by the middle 50% of the group, as scored from the rater's opinion, the lower and upper quarters represent workers who are worse or better than the average, respectively.

Finer classifications can if necessary be made, the lowest and highest 10% may also be distinguished, for instance. This form of rating scale has the advantage of being simple and yet extremely flexible in the rating, and the method of correction controls the personal bias of the rater in a most satisfactory fashion. When the raw scores for the same group of workers of two raters are compared, for instance, the customary divergence is usually found, the same worker will receive forty-eight credits from Rater A and sixty-eight credits from Rater B. When the limits within which each rater has placed the highest and lowest 25% of his people and the middle 50% are found, however, it is found that A and B mean exactly the same thing by their ratings, that forty-eight for Rater A means above the average, and sixty-eight for Rater B also means better than the average. The divergence in the raw ratings has not been due to any actual disagreement about the worker rated.

K. Use of the Graphic Rating Scheme.

This kind of rating system is now in use in several organizations. Wherever it has been used it has been found simple in administration and after correction by the method just outlined a high degree of consistency has occurred between successive ratings by the same rater and ratings of the same workers by different raters.

One member company uses this system for a monthly and two monthly follow-up of new employes—and for a quarterly review of all employes. One clerk has been able to handle all of the work incident to the correction of raw scores. At least 3,000 employes are rated each quarter.

SAMPLE GRAPHIC RATING FORM

Rate and Return before		Name.....	Disc.....
Month	Day	Rated by	
192			
Rate above salesclerk in each of the qualities listed below by placing a check (✓) on each line at the point which seems best to describe salesclerk.			

1. Ability to Meet the Public

To what degree does salesclerk create a favorable impression upon customers? Consider dress, speech, mannerisms, courtesy, tact, etc.

Very favorable	Satisfactory	Most unfavorable
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2. Merchandise Knowledge

Consider present knowledge and interest in acquiring new information.

Very complete	Fair	Very slight
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3. Industry and Stockkeeping**4. Knowledge of Store**

As a whole—system, location of departments, deliveries, policies, etc.

Lazy	Does her share	Industrious
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Very complete	Good working knowledge	Very inadequate
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L. Adaptation to Individual Needs.

The precise form which any rating scale will take will of course be controlled by the purpose for which it is to be used, the kind of people who are to rate and to be rated, and the type of work for which the scale is to be used. The periods at which ratings are made must also be controlled by these and other factors. The Committee believes, however, that ratings should be periodic and wherever possible should always be made by more than one person. Each person should make his ratings independently.

Summary.

The use of various kinds of rating scales has led through drawbacks in one kind of scale after another, to a recognition of certain essential qualities which a rating scale must have. These are:

1. A means of control of the personal bias of the rater.
2. A limited number of items.

3. A limited number of ranks.
4. The use of words descriptive of ranks rather than numbers or letters.
5. The scale should be simple and quick to fill out.
6. The operation of rating should not be distasteful to the rater.
7. Successive ratings by the same rater or ratings by different raters of the same employes should show reasonable consistency.

The graphic rating scale, the most recent development in rating scales, meets these requirements as no earlier scale has. The precise form which it shall take varies of course with its use and purpose, but it provides a method of controlling the personal bias factor, is simple, quick and direct, and in the forms in present use satisfies the other essential requirements.

ELSIE OSCHRIN.

March 24, 1921.

CHAIRMAN: We shall proceed under a five-minute rule, for I am sure you want to discuss this subject. Mr. Beatty, have you something to offer on this?

A. J. BEATTY (The American Rolling Mill Company): I have not made any plans to help discuss this report, although I happen to have had something to do with the getting up of this report on rating scales. The Chairman of the Committee edited my part of it pretty carefully after I sent in my part of the report, so I am not wholly responsible for that part of the report referring to rating scales. I do not know of anything that I could say in the discussion more valuable than to tell of our use of the rating scale. Our rating scale is a scale of six points:

1. Physical qualities.
2. Personal qualities (character).
3. Initiative.
4. Convincingness.
5. Technical and general knowledge.
6. General value to the company.

On the scales after each of these six characteristics the names of five men are written, the five being chosen and placed on the scale to represent highest, high, medium, low and lowest degrees of the quality in question.

In rating an applicant first, or in subsequent ratings, he is compared with each of the five men on the several points of the scale and given a rating highest, high, medium, low or lowest, depending upon which man of the scale he is considered nearest like.

We believe that this is the most practical way of rating men. It is the way in which every one of us proceeds when we receive applications for positions. We at once compare the prospective employe with somebody who is already in our employ; and so this seems to me to be the most logical and practical way of making a rating scale; a scale made up of actual men with whom to compare applicants.

And the results we have had from the use of this scale are very interesting. For three years we have been selecting sales apprentices by this plan. By sales apprentices I mean technical graduates who apply for admission to our training course through which we put prospective salesmen. These men are given first a

series of mental tests, or intelligence tests, and then they are interviewed and rated by five men. Each of these five men uses a rating scale identical in form and each one scales the applicant. The ratings by the five interviewers are got together by the secretary and they are compared with the records made in the intelligence tests. No man who fails to make a certain minimum ranking is admitted into that course.

Our experience so far indicates a very high correlation—first, between the records the men make on the rating scale and the records they make in intelligence tests; and also a high correlation between the records made by the men on the rating scale in the tests and the records made in actual performance in the mill. These things lead us to believe that general intelligence tests and rating scales are a good thing.

CHAIRMAN: Mr. Banks, do you use tests in your plant?

MR. J. E. BANKS (American Bridge Company, Ambridge, Pa.): We do not.

MR. BEATTY: I am not a psychologist. But many psychologists hold to a view quite contrary to the statement which Mr. Banks has just made. This view is that no man's intelligence is ever changed. A child comes into this world with a certain degree of intelligence, and there is nothing that he can do that will ever change his intelligence. I wonder if that is true.

CHAIRMAN: I think that was brought up yesterday, the same subject.

MR. HENDERSCHOTT: Was it true yesterday?

CHAIRMAN: I do not know as we established it yesterday.

MR. ROY L. DAVIS (American Cinema Corporation, New York City): I cooperated with Dr. H. C. Link in compiling the data and writing the report on "Psychological Tests and Rating Scales," which was presented to the 1920 convention. In this report we tried to present the status of psychological testing in industry. There was no attempt made to analyze what was meant by the more general term "intelligence," which most of the tests developed to date attempt to measure. Industry in the last analysis is interested in whether or not an employe is able to successfully and economically fill the position to which he is assigned. To be able to predict that beforehand is only assured when we have developed specific tests for specific tasks. It is doubtless true that a person answering a series of memory tests

satisfactorily is better qualified for a particular job to which the questions refer than one who cannot, but it does not mean that that is the sole criterion for judging a person competent to fill the job. The tests developed by Edison were purely "memory" tests and not tests of other abilities, which a prospective employe might have, that would qualify him for a particular job.

When in the army during the late war I had occasion to watch the uses made of the intelligence tests and the rating cards for both officers and enlisted men. As a personnel officer in one of the large flying fields I found that the psychological tests played but a minor role in the selection rating or transfer of the men. Part of this might have been due to lack of knowledge of their value. Later, when with the Western Electric Company, I had a further opportunity to follow the progress of this work in industry. This experience taught me that there were many practical ways of measuring intelligence besides the use of tests and rating scales.

I do not want to convey the impression that I am underestimating the value of measurements of this sort. They are very valuable if properly developed and utilized. There are a large number of "psychological gold-bricks" flying around and several of the tests mentioned here today might come in that classification. The report of the committee this year is a very sane one and well worth reading. A close study of actual conditions will show that the theory of psychology as applied to industry is a long ways in advance of the practice. It will be some time yet before the two will be reconciled. A series of articles by Prof. Adams of the University of Michigan appearing in the current issues of *Scribner's* magazine are very pertinent to this entire discussion.

L. A. HARVEY (The Texas Company, New York, N. Y.): I really cannot make use of psychology in examination of persons in applications for positions—is that right?

A DELEGATE: No.

MR. HARVEY: I did not get clearly what value you were giving it. In what respect would you use it if you were examining a man for foreign service, for example? Now, for one thing you would want to know whether those men are making good men; suppose we leave them there, would you have anything in your psychology that would help you in determining it?

DELEGATE: I think you would tackle that the same as any engineering problem. You would find out what things are required of men in foreign service; then you would go ahead and try and develop some test, or find some test that might pick out qualities you think are essential for that man; then try those tests out either by men who are actually in the work or men under your close observation and then in time develop a proper test for that thing. I am an advocate of specific tests for specific jobs rather than so-called general intelligence tests covering the whole group of tests for all sorts of jobs. Find out what you want to test, what are the requirements of men for a particular position, and then develop your test accordingly. You cannot buy a patented test and apply it; you cannot do that and then take and try it out because it is not practical and I doubt if you could.

MR. I. B. SHOUP (Westinghouse Electric and Manufacturing Co.): I think something like the gentleman who just spoke in regard to specific tests for specific purposes, but I doubt very seriously whether anything has been developed along the line of psychological tests that can tell us whether men are all right or all wrong; sometime there may be, but I have not seen anything yet that supports in any way that theory. I do believe, however, that tests have been developed which tell us to a very marked degree whether individuals meet the specific requirements for specific jobs. The form of our psychological tests has been entirely too general. It must of necessity be confined to specific kinds of qualifications. We talk about intelligence and psychological tests to determine whether persons are intelligent, and in so doing what do we mean by intelligence? Nobody seems to know with any degree of satisfaction what we mean by the term. We may call it ease in learning, mental alertness, teachableness, an innate quality of mind that makes one a good learner or something else, and we still have to ask ourselves the additional question. A good learner of what? or, in other words, intelligence for what? Some types of mind are intelligent for one thing and not for another.

I recall distinctly a senior in high school who used to stand at the blackboard and demonstrate theorems in solid geometry in an apparently very intelligent manner, but when she was asked questions in regard to the demonstration one would readily dis-

cover that she had no understanding of the proposition involved whatever, which fact she always readily admitted. The demonstrations were always committed to memory and nicely carried through. When she was asked whether or not she understood the propositions involved, she often replied: "Understand what? I don't see that it means anything." Here was a type of mind to which geometry was entirely foreign, a type of mind in which there was no intelligence for geometry whatever. On the other hand, this same girl was an accomplished musician at seventeen years of age and able to play difficult classical music at sight. She had wonderful intelligence for music.

What we have to do, then, I believe, is not simply define intelligence, but define it in terms of some specific thing, and when devising intelligence tests devise them with reference to some specific type of intelligence, and until we do proceed in this manner we should not expect to make any progress with this kind of investigation.

MR. H. E. VON KERSBURG (R. H. Macy & Co., Inc.): About two and one-half years ago, the chairman of this committee was employed by us to develop these psychological tests so that we could use them in conjunction with the work in our Employment Office. Up to that time, when we received requisitions for people for the various departments of the store we would choose them entirely by the impression they made on us when they applied—personal appearance, personality, experience, and the way they filled out their application blanks. As a matter of fact, our application blanks are so arranged that filling one out is more or less a psychological test in itself. We are now using these tests and developing them. Do not misunderstand me, psychological tests have not been entirely sold to us, but they are so far sold that we are still experimenting and continuing the use of them. To my mind there has been more “bunk” written about psychological tests than any other branch of Personnel work. Some of the claims that have been made for these tests are absolutely absurd. There is no doubt but that the word “psychological” frightens many people as it gives them the idea of something intangible and mysterious, while the use of some other word such as “common sense” tests might be a good idea, and at least give these tests a chance for a hearing. I can not tell you all that we have done in our effort to develop our psychological tests, but I shall attempt to tell you in a general way the methods we have employed in testing them out. Take a selling department as an example. In mercantile establishments the head of a selling department is the Buyer, the assistant Buyer, then the Head of Stock, then the Section Manager, or, as he is sometimes known, the floorwalker. Every one of these four people just mentioned obtains a mighty good idea of the ability of the people in his department. The first thing we did was to get a personal rating from these four people of all the salesclerks in their particular department. We then separated these into different groups and tried them out by giving them as many as forty or fifty tests. By checking up these tests with the personal ratings of the Buyer, assistant Buyer, Head of Stock and Section Manager, we were able to determine which tests were sensitive and which were non-sensitive. By a process of elimination we arrived at tests that were the most sensitive and by a “happy coincidence” we discovered a test that was sensitive to both salesclerks and clerical

workers. This test was made up of three parts, two of which were quickly and correctly performed by the best salesclerks while the third was performed most satisfactorily by the efficient clerical workers. In order to distinguish between these results we marked the part of the test which was better performed by the clerical worker with a negative mark, while the other two parts we gave positive marks. These three marks were then combined, the best clerical workers had a sufficiently large negative mark to outweigh the two positive marks thus making the final score a negative figure. On the other hand the good sales clerks had sufficiently large positive marks to outweigh the negative marks, thus giving a total positive score. Some few persons were found who performed both negative and positive parts of the test equally well. In this case the result was a zero or near zero, since the negative neutralized the positive. Such persons were considered equally well-fitted for sales or clerical work.

We are still testing these tests in the attempt to standardize them and, as I said before, the idea has not been sold, but has been so far sold that we are continuing the use of them as we think that they have possibilities.

Now that we are using these tests we first hire somebody and then test him to find out whether he measures up to our personal rating. In the interview it is almost uncanny how many times applicants do measure up, but sometimes they do not.

I do not think that anyone claims that these tests are infallible, but it has been admitted by those who have used them that they are a great help. I think, as far as a development of psychological tests is concerned, that the surface has just been scratched and that there is no doubt but that great progress will be made within the next decade.

MR. W. N. FENNINGER (Brooklyn Edison Company): I think that the last speaker, and in fact Mr. Henderschott in presenting the report, mentioned something that was important. There has been more quarrelling over psychological tests than any other branch of the Association's work, and I wonder if this meeting would not bear me out in this conclusion: that, as the last speaker has said, they are not infallible and they are not the only thing that we should take into consideration in hiring or promoting people; but that they are one of the things that we can

use and that after the tests have been properly made and tested out they can be of considerable value in indicating some of the things we want to find out or know about people. There are people—I almost mentioned a name, but I will not—who claim they can tell by looking at you, by the shape of your head, your nose and chin, etc., what you are supposed to be good for. Now, I think that will be of some use, especially if you are going to be sales people, for if you are hiring salesmen you do look to a certain extent at their personal appearance. In other words, you put a little bit of emphasis at least upon their appearance; that tells you something. Likewise, I believe that these tests tell something if properly carried out. However, I think that at the present time the tests, just like the above mentioned people, can not tell you everything; but I am one of the members of the committee and am heartily in favor of seeing a good deal more experimental work carried on. I am just beginning to do it.

The educational work which I have the pleasure of conducting in our organization is the kind that is commonly called "related technical information." I do not develop trade skill. Most of the courses carried on in our Company require the presentation of a great deal of related technical information. A particular type of individual is needed to handle our power houses. It requires a very large amount of information along electrical lines. If we were to hire all college graduates, they very quickly could pick up of their own accord the specific information which they need; but if we were to hire them for power house apprentices, and I think Mr. Henderschott will bear me out, they would not stay in the power house very long. In other words, they are not the type of men to stay there on the average.

Now, we can not hire, or do not care to hire, a man that is too high for a job. The other alternative is to hire people who are not highly trained, and to give them the training which they need. There is a large store of knowledge of electricity which some employes must have. Now, it would be desirable if we could tell in our organization whether a person that we are about to hire can pick up information, not exceedingly easy perhaps, but reasonably easy, so he can profit by instruction in a reasonable length of time.

At the close of this School year, after conducting several electrical courses, I gave the students an examination which was

more or less of an old-time school examination on their accomplishments. It was intended to test them on their technical information as specifically applied to our own company. Then I also gave them an Army Alpha Test about which you know. I was trying to find out whether there was any correlation between the so-called general intelligence which the Army Alpha Test is supposed to tell one about, and the marks in my Technical examination. I do not have the figures here, but I did find that there was close correlation between the high marks in the Alpha Test and high marks on my examination and, so far as I had time to carry it out, they also correlated with my personal opinion of the men with whom we were working. I have not had a chance to carry it out as far as I should like.

There were a few very glaring exceptions; however, the men who made high marks in my examination and not very high in the Army Alpha Test, were men who had been with the Company a very long time and had gained a good deal of information through a long period of experience and a good deal of hard work.

MR. W. D. STEARNS (Westinghouse Electric & Manufacturing Co.): There is one thing, it seems to me, must be borne in mind in making such tests and that is the difference between information and education; the difference between the mere accumulation of facts and that development of mind which enables a man to tackle a new problem and solve it for himself. The test should be designed to bring out this latter quality. At present this is a matter of research, and is a problem which has a definite solution, sooner or later. Such tests make us think seriously of problems and factors of the human relationship of which we have not before thought. I believe this is also one of the principal reasons for rating employees; it makes us realize the difference between two men.

MR. W. E. FREEMAN (Westinghouse Electric & Manufacturing Co.): The Westinghouse Electric and Manufacturing Company is experimenting with specific tests for specific purposes. Each year we employ a large number of technical graduates and give them one year of training before placing them on regular jobs. Most of these men are assigned to either the sales or engineering department. There is considerable difference in the training schedule for the two departments. It is therefore de-

sirable that we know soon after a man comes to us whether he is best fitted for sales engineering or for engineering design.

The Bureau of Personnel Research of the Carnegie Institute of Technology has arranged some tests for the purpose of helping us determine the kind of work for which each man is best fitted. We have tried these tests for about one year. We have found that the indications of the tests check with our opinion of the men's qualifications after we have watched their work for a year, in about seventy-five per cent of the cases.

MR. JOHN D. GILL (The Atlantic Refining Company): I remember distinctly at, I think, the 1916 meeting, which was held in Pittsburgh, discussion concerning the application of a knowledge of phrenology to the analysis of the human being. During that meeting I sat alongside one of the foremost psychologists of America, the man who made up and placed the Alpha Test in the Army. Unfortunately for him, he, at that time, severely criticized a woman whose name I have not thought of for several years. The criticism was heard and it was concurred in by practically everyone present. Since that time the statement has been published on several occasions and has been spoken of a great deal, and that is that the possibilities of our existence are limited at birth. That point has been discussed here quite a little and it has thrown fear into some of us and doubt into others of us, but to all of us it has meant that intelligence in a large measure can be determined by psychological tests. Although you may not think of it our character and ability to perform are stamped on our faces more indelibly than you will ever find it to be done on paper. We had a little scientific discussion yesterday as to just what was meant by the statement that our possibilities are limited at birth. Those limitations, at least the definition of those limitations was expressed slightly in psychological terms. The control of our faces, our heads, perhaps even the size of our bodies are likewise limited at birth.

The whole matter of sizing up a human being is a vast one and is an uncanny business. None of us like to be looked in the face and have the other fellow say exactly who we are and what we can do and we have kept away from it. I know from my own experience; I know from meeting hundreds of people; I know from a collation of written psychological tests; I know from the control of one's face, the lines in one's face, that there

has been very much more truth in the work of Dr. Blackford than we highbrows have been willing to admit.

For at least five years we have been using psychological tests in the employment of salesmen and we believe in psychological tests for the employment of all material workers and our whole experience boiled down to a few words is this: That psychological tests have not yet told us, or helped us very materially in the employment of salesmen. Psychological tests have been taken by men who could not pass our school curriculum, they being concededly too hard for good salesmen. We are just as used to the fact that psychological tests have not helped us in selecting good salesmen as we are that psychological tests have helped us in selecting good managers. We have essentially two classes of people in the salesman's organization; one is the salesman and the other is the manager. Men have come into our offices and have taken psychological tests and have not passed these tests satisfactorily and have gone through school and have not passed the school curriculum. You will think that it is not much of a curriculum, but these men have gone out and made good as salesmen. I make with equal emphasis the statement that those same men could not operate a business as managers. We have had other men come into the office, pass a psychological test with a high rating, go through the school curriculum and not be adapted to the job of manager. The man I mentioned first, who has taken the tests and failed and also the school course and failed, will possibly because of integrity and because of stick-to-it-iveness make a good manager in twenty years, while the other man can make a good manager in two or three years.

The definition of the German Psychologist Stern and psychologists of note is that intelligence, or the degree of intelligence, is evidenced by the readiness with which an individual can adjust himself to conditions. That is essentially the definition that Mr. Davis gave. Managers have many conditions to meet and must adjust themselves to these conditions. Retail salesmen have also many conditions to meet, but they all belong to the same class and they pretty nearly learn how to meet conditions in that particular class.

I do not believe that we want to give psychological tests because we are still looking for managers and we like to get a majority of men of that type. Perhaps that is the reason why the

majority of men who can not pass psychological tests fail to pass in that particular department, but I repeat that many men that failed to pass the psychological tests have made excellent and profitable salesmen.

MR. ROWLAND ROGERS (Picture Service Corporation): I wish to make just a momentary plea for a further continuation of tests along sound scientific lines, not so much from the point of view that has been considered but from a National point of view. We are entering a period in this country where we have to eliminate our National waste. One of the large items of National waste is the unduly high labor turnover involving economic loss to everybody. This runs into hundreds of millions of dollars. Also, the social loss in having the man in the wrong position where he is dissatisfied and unhappy and with the adverse resultant effect upon his family. Psychological tests are still experimental. If they can help, and they are helping to a degree to cut down that waste, they are of value.

Professor Seashore of the University of Iowa has made a series of tests as a result of fifteen or twenty years' experience with thousands of students by which he has a method of telling whether the pupil will or will not succeed as a musician. I believe this is the only series of tests which have been carried out to such important conclusion. If the various industries will continue these tests, this will be of value. Unfortunately, as Mr. Henderschott has pointed out, there has been an undue amount of charlatism with them. Yet the work of this committee already started, indicates there can be certain tests developed by careful study and analysis which will prevent or cut down a large amount of industrial waste.

MR. DAVIS: I do not like to contradict the previous speaker, but it should be made a matter of record that the Alpha Army Tests were not the work of any one man. Among the psychologists who contributed to this work were Scott, Yerkes, Bingham, Whipple and many others. The Alpha Tests were made up of a series of standardized tests already in current use by experimental psychologists and educators. These standardized tests were developed by as many different investigators as there were different types of tests.

In answering the criticism of Mr. Dennison, let me remind the conference that man—biologically speaking—has changed but

slightly in the last one hundred thousand years. Researches made among the remains of prehistoric man show that our progenitors were as well developed physically as we are to-day. The contour of the skull and the brain area were practically the same as that of modern man. Yet during this time man has profited by experience and through various methods of communication has passed down to succeeding generations the experiences of the race. Those who still believe that they can tell the degree of intelligence by the "shape of the head" are respectfully referred to the series of articles in the current number of *Scribner's Magazine* by Professor Adams of the University of Michigan. They will throw a lot of light on Catherine Blackford and her followers.

MR. DENNISON: People are divided into two camps—the idealist and the materialist. The psychologists think they are idealists, but they are in fact materialists. When thinking on the subject of the analysis of human characteristics, I love to think of the Second Commandment, the last half of it, where it says, "Showing mercy unto thousands of those who love me and keep my commandments." It is the love in human nature which must be touched and developed. The man who just sat down said that the physical man has not changed in many hundreds of thousand of years. Therefore, would it not be well for us to give more time and more thought to the consideration of the soul (love) qualities in the normal human being and less to the material? More study to the ideal that God created, and less to the ape? Would we not then get somewhere in industry? We devote considerable time at our conferences in talking about the human element in industry and when that human element finds out that you are classifying it according to this, that, and the other material thing, it is going to wake up to realize that you view it not as human but just as a machine. It may be all right from a material standpoint, which I do not accept, but do not forget that there is a destiny that shapes our ends, not as machines, but as ideals. We must not forget that man is made in the image and likeness of God, not physically, but spiritually, reflecting all the attributes of God which can not be measured and are not limited by a yard stick in the hands of experimental materialists. That is my feeling and my honest conviction, and when you can get that imprinted into the soul of man, nothing can stop him. He will rise to heights that the psychologist never thought pos-

sible. We have a class of people who are limiting the physical being of man; stamping him at birth with certain things that he has no right to accept. Physically, man seems to be limited by hereditary influences—shackles with which the material psychologist delights to juggle. It is to such as these that I refer the Second Commandment, "The showing of mercy to them that love Me"—God—Life, Truth, Love.

From what has been advanced at this conference by the exponents of psychological analysis—their claim to being able to allocate the psychic elements in the individual under observation, and their hopes of classifying each individual in his proper groove which savors so much of the German system of submerging the individual. Do not forget, my friends, that when you say to a child, "You are limited," you may retard the growth of a President, an Edison, or a Van Dyke. I know you will come back at me and say, "You misunderstand our intelligence rating; we do not set this up as final." Then you should state clearly what you are—"experimenters." Do not set yourselves up as scientific. You are not.

When you study the discords of human nature you can not hope to find harmony. What we want is to discover the harmony. Every one of God's creatures manifests His attributes if given an even break. Once these are found, and they should be first manifested in the employer, for he is presumably the more intelligent, you will immediately take a great step toward eliminating our industrial discords. Harmony is scientific, since it is an attribute of the Infinite Mind—intelligence. Such a study is scientific, absolute, which can be proved and demonstrated in the hearts of men. Do not forget it!

MR. FRANKLIN T. JONES (The Warner & Swasey Co.): Most of us are afraid to take a psychological test because we are sufficiently intelligent to know our own selves and we are all mighty careful to see that no one else shall find out all about us. Every man of intelligence knows he has his limitations. Usually he knows perfectly well the steps by which he got ahead. Frequently someone liked him well enough to give him a chance; then he had sufficient intelligence to take advantage of that chance. Hence, it is right to test a man for intelligence, to find out whether we have given all the men who are worth while the chance they deserve

Psychological tests need no defense. If ineffective, they will destroy themselves; if effective, nothing that we say here for or against them matters very much. Up to the present time the results of tests justify their continuance.

PRESIDENT KINCAID: Just one point occurs to me. I feel we do not want to give too much credit to any kind of a test. Suppose a person gets, we will say, twenty-five per cent in a test, whether psychological or otherwise, and another person ranges forty per cent; if that person whose standard is twenty-five per cent, under the inspiration of the Almighty, as the insurance man says, makes twenty-five per cent use of the twenty-five per cent standard, he is going to get a good deal more than the forty per cent man who only uses twenty per cent. The purpose behind the individual will carry the man of the lower standard a great deal further than the man who has a high rating. Therefore, I agree with my friend from Hartford that the spiritual force is the thing you need most.

Now, we will have to close. I will give Mr. Henderschott a few minutes to speak.

MR. HENDERSCHOTT: The question has been passed up as to what constitutes these tests. Can not someone give us some concrete examples? There are many tests. You can get them from Columbia or from many of the other leading universities; you can get them in Army tests and others. I can not explain them here.

There are new subjects coming up almost every week; some of them cause a good deal of humor in connection with the general discussion. For example, some of the tests are intended to trip you up and confuse you and then they will give you so much time to settle "If two and three make seven, will it rain before the convention is over?" But after all, it is not silly for the purpose it is intended for.

All over this country when Mr. Edison's list of questions came out newspapers put it on the first page, and the discussion ran in the New York papers for days; and after all was said and done, it was simply a memory test; nothing else. It did not determine anybody's intelligence; nobody would use it for any other purpose. But memory is of as many varieties as Heinz's pickles. Memory is for those things we are interested in.

Now, I can not speak for the committee, of course, and Miss Oschrin is not here; but I do believe that the position of the committee is that we should not attempt to form any definite conclusions.

The meeting then adjourned.

MARKETING

WEDNESDAY AFTERNOON

PRESIDENT KINCAID, *Presiding*

PRESIDENT KINCAID: Mr. W. E. Freeman, Chairman of the Sub-Committee on Marketing, will present that report.

MR. W. E. FREEMAN: The last report of the Committee on Marketing was submitted at the annual meeting of 1919. This report covered the subject of Marketing in an admirable way. Since that time, the personnel of the committee has been entirely changed with possibly one exception. Those having the program in charge suggested that we give our attention to the subject of training men for marketing, and so that is the only phase of the general subject which we have attempted to cover in this report.

The subject of training has been discussed at practically all meetings of this organization during its existence. We have nothing especially new to offer, and we feel that we have only hit the high spots and have assembled some ideas, the bringing together of which may be of value. Every one in a company's organization should be interested in, and in a certain sense feel some responsibility for, the marketing of that company's product. However, we have not attempted to cover the subject from this broad standpoint. What is said in this report refers to the training of men for selling in the more generally accepted meaning of the term.

The report is arranged in two parts. The headings of these two parts are:

- I. What are the vital factors in the training of men for marketing?
- II. What are the elements of efficiency lacking in the present-day methods of training men for marketing?

In the first part it is indicated that in planning a training course there are three general periods of time that should be recognized:

1. Before the training period;
2. During the training period;
3. After the training period.

Before any training is started, it is very important to know just exactly for what we are to train. The best way to get this

information is by means of a job analysis of the departments in which the men will be placed at the completion of their training period. The report of the committee on job analysis and the discussion of this report is fresh in your minds and it is not worth while to dwell on the importance of job analysis. All that is necessary at this time is to call attention to the fact that it is of great value and can be used to great advantage in the training of men. We should know as nearly as possible just what men are to do in order to train them to do that thing, and unless we know it, and know it rather intimately, then our training is likely to fall far short of accomplishing the desired results.

Under the subheading, "Before the Training Period," in addition to job analysis, another point is mentioned; namely, "The selection of the men." In selecting the men it is again important that we know the kind of work they will ultimately be expected to do.

Passing to the third subheading under part one, attention is called to the importance of advancement and compensation. During the training period it is usually necessary that the men be paid a comparatively low wage, and in order for them to be satisfied under this low wage they should have something to which they can look forward in the way of advancement and increased compensation. It is, therefore, quite important that the progress of the men be followed closely after they have finished their training, in order that the proper advancement and compensation may be forthcoming.

At a time like this, especially, when high-class men are easily available, there is some danger in overlooking the fact that a man may be over-educated or over-trained for the job which he is to fill. If a high-class technical graduate is put on a job that a high school man can easily fill, we are almost certain to lose the services of the highly trained man for the reason that he can not be paid and can not be advanced as rapidly as his education and training warrant. The expense, the time, and the effort spent in training may thus come to naught, inasmuch as the man will seek employment where his talents can be used to the greatest advantage to himself and to his employers. It is just as important for a man not to be over-educated nor over-trained as it is for him not to be under-educated nor under-trained.

In the second part of the report, among those things that are

lacking in the present-day methods of selecting men for marketing, I should like to call attention especially to two points. It seems to be a rather common practice among men engaged in selling to say that they have a system of their own that can not be analyzed and can not be followed by anyone else. I think that most of you recognize the fact that almost any job can be analyzed. However, the analysis of the job could be made a great deal easier and some very valuable information could be passed along to the young salesmen if this mistaken notion of some of the older men could be corrected. There are, without doubt, certain fundamental principles in the science of selling that can be established even though the details of applying these principles to each particular sale may be quite different.

The second point in the last part of the report, which, I should like to stress, is covered under the subheading "The Phase Relation of Training and Business Prosperity." I think that considerable thought should be given to the matter of preparing for a period of business prosperity during a period of depression, and vice versa. During times of business prosperity our effort is directed almost entirely to production. The selling of goods is not a difficult matter. Then when we pass into a period of depression, we find as a rule that salesmen are not trained for the strenuous work necessary during such a period. I believe we should be satisfied during prosperous times with a little less business and devote more time and money to training men for the dull times that are almost sure to come. Then during dull times, if we should have faith that prosperity will again return, and regulate our training accordingly, we could smooth out some of the irregularities in the curve of business and possibly avoid some of the bad effects of the wide fluctuations.

COMMITTEE ON MARKETING

W. E. FREEMAN, *Chairman*

WESTINGHOUSE ELECTRIC & MANUFACTURING COMPANY
East Pittsburgh, Pa.

LADSON BUTLER

YAWMAN & ERBE MANUFACTURING COMPANY
Rochester, N. Y.

T. H. BAILEY WHIPPLE

WESTINGHOUSE ELECTRIC & MANUFACTURING COMPANY
East Pittsburgh, Pa.

CARL A. SECOY

PHOENIX MUTUAL LIFE INSURANCE COMPANY
Hartford, Conn.

W. D. BLATZ

BRIDGEPORT BRASS COMPANY
Bridgeport, Conn.

C. G. SCHLUEDERBERG

WESTINGHOUSE ELECTRIC & MANUFACTURING COMPANY
East Pittsburgh, Pa.

R. H. SPAHR

WINCHESTER REPEATING ARMS COMPANY
New Haven, Conn.

REPORT OF COMMITTEE ON MARKETING

In gathering material for this report, the members of the Committee and some others were asked to answer these two questions:

I. What are the vital factors in the training of men for marketing?

II. What are the elements of efficiency lacking in the present day methods of training men for marketing?

A tabulation is given of the points mentioned in answer to these questions followed by a short discussion of each:

I—What Are the Vital Factors in the Training of Men for Marketing?

Before the Training Period

1. Job analysis
2. Selection of the men

During the Training Period

3. Loyalty to the employer
4. Knowledge of the employer's organization
5. Knowledge of prospective customers' organizations
6. Knowledge of the product
7. Knowledge of competitors' product
8. General knowledge and culture
9. Psychology
10. Ability to analyze market conditions
11. Ability to analyze the buyers' needs and characteristics
12. Knowledge of advertising methods
13. Knowledge of distribution methods
14. Figuring costs and profits
15. Meaning and importance of capital turnover
16. Service to customers
17. Advantage of carrying samples
18. Business and social courtesy
19. Ability to write good letters
20. Feeling of personal responsibility
21. Time analysis

After the Training Period

- 22. Observation and guidance
- 23. Advancement
- 24. Compensation.

Before the Training Period

1. *Job Analysis*

This is placed at the head of the list for the reason that an analysis of jobs to be filled should be made before anything else is done—before the men are selected, before any training is attempted.

Under this heading Mr. John A. Stevenson, formerly director of the School of Life Insurance Salesmanship at the Carnegie Institute of Technology and now third vice-president of the Equitable Life Assurance Society, has this to say:

“Here is the first question that is to be answered when a man decides to train himself for marketing or selling: ‘What am I going to study and how shall I prepare for these selling positions?’

“For a number of years about the only thing that he could get was the disjointed experience of some man who had succeeded in that field and not infrequently he was given a few shots of mediocre advice by the over-enthusiastic sales manager. The problem finally resolves itself down to this fact: Every marketing position has certain underlying facts back of it. If a man is going to train himself for that position, it is absolutely necessary that he know what these facts are and study them.

“In arriving at just what he would have to study, I should say that he would require *a close study of the occupation and make a job analysis of it*. The job analysis would reveal the curriculum material which would be necessary for this man to study or have taught him in order for him to prepare for this marketing position. The serious difficulty has always been that most training courses have neglected this fundamental principle which seems to me to be very basic.

“When the Insurance School was started at Carnegie Institute of Technology, we could have started in two ways: First, we could have provided books on insurance salesmanship and economics and had the students study a lot of material. When they had finished, they would probably have learned a few things

about life insurance, but in order to 'make' the school and actually prepare the men for selling positions, we went into the insurance field and found out what life insurance men are required to do. After making a careful job analysis, which included not only the selling of insurance but also the study of insurance publications, we outlined a curriculum based on these findings."

2. *Selection of the Men*

Important fundamental characteristics which are desirable in the men who are to be trained for marketing are:

- a. Health
- b. Honesty
- c. Good appearance
- d. Pleasing personality
- e. Power of persuasion
- f. Reliability
- g. Open-mindedness
- h. Loyalty
- i. Thoroughness
- j. Courage
- k. Adaptability
- l. Initiative
- m. Resourcefulness
- n. Enthusiasm
- o. Ambition.

During the Training Period

3. *Loyalty to the Employer*

The spirit of loyalty is inherent in most men, but much can be done to cultivate it and direct it along certain lines. Training of the nature suggested in a number of the general headings will contribute largely to a feeling of enthusiastic loyalty. Among the headings in mind are:

- a. Knowledge of the employer's organization
- b. Knowledge of the product
- c. Feeling of responsibility
- d. Advancement
- e. Compensation.

4. *Knowledge of the Employer's Organization*

This includes not only the personnel, but the policies, the rules, and the regulations of the company; the channels involved in the marketing process should also be made familiar so that questions which cannot be answered from the individual's own experience or secured from data in his possession, may easily be referred through the proper channels so that the answer can be promptly obtained.

Also one who is familiar with an organization is much more likely to be loyal to it. The policies of the company as they relate to its treatment of employees is very important.

5. *Knowledge of Prospective Customers' Organizations*

A knowledge of a prospective customer's organization is very essential in the making of a sale. The salesman should know what men it is important for him to approach and just how each individual fits into the organization. A knowledge of the general practice and principles usually followed in the organization of business concerns will enable a man more quickly and correctly to become acquainted with any particular one.

6. *Knowledge of the Product*

One might hesitate to use this phrase since it has been repeated so many times in this connection that it has become almost hackneyed. But hackneyed phrases frequently become so because of their fundamental nature. Knowledge of one's product is a vital fundamental in the training of men who are to take part in the marketing of that product. Considerably more is meant than a mere familiarity with the construction details of a machine or the processes involved in its manufacture. When the old Greek philosopher said, "Know thyself," he did not mean that one should know only his height, weight, and chest measure, the number of his fingers and toes, and the color of his eyes and hair, but he meant that one should be able to answer such questions as these:

What should I do under given circumstances?
 What conditions will bring out the best that is in me?
 How can I make myself helpful to my fellow men?
 What situations will cause me to act improperly?

The training of a man for marketing should be such that he could easily answer similar questions about the product. The success of many industries is due to this fact more than to any other that the men responsible for marketing the product had made an exhaustive study of its application and knew better than their competitors where it could be used. A man who is thoroughly familiar with his product is much more likely to be enthusiastic about it and loyal to the man or company that made it. Why does a man swear by his watch? Why will one maintain that there is no other car for the price that can hold a candle to the Hup, while another is equally certain that the Buick is the only car in its class? Is not the reason only that men know their own watches and cars better than any one's else?

7. Knowledge of Competitors' Product

It is generally agreed that picking flaws in and knocking the other fellow's goods is bad business. However, a man should know his competitors' product if he is to meet successfully the talking points of his competitors.

8. General Knowledge and Culture

Ability to talk about things not relating to his own line has been the salvation of many a salesman. A man must first sell himself to his customer before he can sell his product. He should be impressed with the importance of extending his knowledge beyond his special line.

Men interested in marketing should take a leading part in the affairs of the community. They should be recognized as among the leading citizens where they live and work, and should gain the prestige of such recognition.

9. Psychology

It is important that a salesman should know the instincts and motives that prompt men to action and how these may be aroused. He should also know to some extent how to size up men by observing their physical characteristics.

10. Ability to Analyze Marketing Conditions

The ability to analyze the future as well as the present demand is important. As living conditions change, people require

articles that were not needed by their forefathers. Many new things at first appear to be luxuries but later become necessities.

In training men they should be taught how to ascertain the various sources of the product they are to market and to appreciate the importance of molding the article to meet the needs of possible usage.

The habits of the people in any given locality have great influence on the demand for an article. The possible effects of these habits should be studied carefully.

The effect of general business conditions on the demand for the product should be given special consideration.

• 11. *Ability to Analyze the Buyers' Needs and Characteristics*

Mr. C. F. Lang, President of the Lakewood Engineering Company, in his article, "Taking the Buyer's Side in Selling," which appeared in the April, 1920, issue of *System*, says:

"The thing actually sold, barring works of pure art, is always a method of doing work.

"Take a product out of our field—the safety razor, for example. What is it? Merely a little instrument of steel and nickel? Yes; but in the final analysis that is not what the manufacturer of safety razors actually sells. He does sell a method of shaving.

"Similarly, the man who manufactures a motor truck sells a method of getting goods from one place to another.

"Similarly, again, the man who sells food sells a method of satisfying the appetite and perpetuating life.

"And we, likewise, with our products, sell methods of construction and methods of interior hauling. We manufacture construction machinery; but we do not sell it. We manufacture equipment for industrial hauling; but we do not sell that. We sell methods of using equipment that fall within our field. We never stress a product. We emphasize practical methods of getting given jobs accomplished."

12. *Knowledge of Advertising Methods*

The student should be made to appreciate the different forms of advertising that are necessary in order to appeal to the individuals who are possible purchasers of his product. He must be

able to mold the advertising to fit the purchaser and the user whose hands the article may finally reach.

13. *Knowledge of Distribution Methods*

This is especially important when the product passes through the steps of merchandising; that is, from manufacturer to jobber, to dealer, to user. A thorough understanding of this process and of the problems of those who take part in it is very essential in order that the best service or even good service may be rendered to the customer who in each case is the man next in line in the merchandising process.

14. *Figuring Costs and Profits*

This is especially important for those who are to be associated in the marketing plan as jobbers or dealers. A large percentage of failures has been caused by poor accounting methods.

15. *Meaning and Importance of Capital Turnover*

A study of this rather puzzling factor in marketing is very important. It must be considered carefully in establishing the margin of profit that is necessary.

16. *Service to Customers*

This is one of the most important factors in marketing and can hardly be stressed too strongly in the training of men. A knowledge of the business of prospective customers is essential in order that one may know all the possible ways in which his product may be of service in that business. The student should be impressed with the fact that service means not simply getting a proposal with full details promptly into the hands of the customer, but also in keeping in close contact with the customer after the sale is made to make sure that his requirements are being fully met, and if they are not, to take prompt action so that, if possible, complete satisfaction may be given.

Any service, whether or not it directly relates to one's particular product, is always appreciated and is a great factor in establishing the salesman and his company in a way that will greatly facilitate the obtaining of future business.

17. *Advantage of Carrying Samples*

A thorough study should be made to determine whether carrying samples is desirable and feasible. This information should be passed on to the student, and he should be taught how best to make use of these samples if they are to be carried. Whenever samples can be carried, a great saving of time and effort on the part of the salesman can be effected.

18. *Business and Social Courtesy*

Courtesy is more or less inherent in most people, but it can be cultivated, and during the training period the men can be taught many things about the etiquette of business.

19. *Ability to Write Good Business Letters*

Reams and volumes have been written on this subject. Much improvement in business letters has taken place during the past few years, but still more improvement is to be desired. The importance of this factor in the training of men is recognized by all, and yet it is not given the attention it deserves. To borrow a phrase from the *American Magazine*, what seems to be needed is will power rather than wish power.

20. *Feeling of Personal Responsibility*

Candidates for employment should be given a thorough understanding of the seriousness of the work with which they are to be entrusted and of the responsibility which will rest on them. When a man is placed on a job, his responsibility should be definite. At the same time he should be made to feel that he is a part of an organization, that the success of that organization depends upon his properly performing his duties, and that his own success depends also upon the functioning of the entire organization. For these reasons he should be interested not only in his own particular job, but in the entire system involved in the marketing process.

21. *Time Analysis*

The proper use of one's time is important no matter what may be his occupation. For men who sell, it is especially so for

the reason that it can so easily be wasted. The proper place to emphasize the importance of the economic and efficient use of one's time is during the training period.

After the Training Period

22. *Observation and Guidance*

The training system should include a reasonable supervision after the man has been placed on a job so that any defects in his methods may be corrected and so that the principles taught during the training period may be properly put into use.

23. *Advancement*

Men of the better class are not satisfied to stand still. They must be made to feel that they are moving up the scale and that there is a place ahead for them. Nothing will contribute more to the loyalty of men than this feeling.

24. *Compensation*

Not only the amount of compensation but the method of compensating is something that must be given careful consideration. Men in training should be made to understand clearly the policies of their employer in regard to compensation and they should be convinced that these policies are fair and best suited to the circumstances.

II. What Are the Elements of Efficiency Lacking in the Present Day Methods of Training Men for Marketing?

Since the factors listed under section one are vital in the training of men for marketing, any method of training is lacking in so far as it fails to take into account any of these vital factors. Those that are possibly most frequently given too little attention are:

1. Job analysis
3. Loyalty to the employer
7. Knowledge of competitors' product
10. Ability to analyze marketing conditions

- 13. Knowledge of distribution methods
- 14. Figuring costs and profits
- 15. Meaning and importance of capital turnover
- 19. Ability to write good business letters
- 22. Observation and guidance

There are some other factors more or less related to these that should be given special emphasis:

1. *Analysis of Selling Methods*

Training could be made much more efficient if men experienced and successful in merchandising and selling could be brought to realize that their methods are capable of analysis and can be reduced to such a form that they can be passed on to the younger men to the very great advantage of the latter. A man will study a given territory, he will analyze the possible demand for his product in that territory, and he will estimate the possible percentage of business that his company can get; yet he would ridicule the idea of analyzing his selling methods. He will say that he has no rules, that he has a method all his own that cannot be transmitted to others. This attitude is a relic of the days when it was almost the universal opinion that salesmen are born and not made and that sales training courses are a useless waste of time and money. Any job can be analyzed, and the more complicated it is the more need there is for analysis.

2. *Supervised Selling*

This might be practiced more freely and systematically. A young salesman could be placed to advantage with different men at different times and in different localities. One salesman's methods may not be suited to the new man's temperament, whereas another salesman might handle his work in such a way that the new man could follow his lead very advantageously. When the new man starts out alone, the experienced salesman should be in close touch with him so as to help whenever possible.

3. *The Phase Relation of Training and Business Prosperity*

During the past several months we have been going through what we are pleased to call a period of business depression.

Periods of this kind come with such surprising regularity that we are inclined to regard their coming as inevitable. It will be agreed that the elimination of these periods would be a desirable thing. We would like to bring up the valleys in the curves of business, but we are not quite so willing to lower the peaks. If we are to straighten the curve, we must be satisfied with lower peaks. During the time of great business prosperity, our training courses are likely to break down, short-cuts and emergency schemes are the order of the day, and the result is that men inadequately and improperly trained are injected into our marketing systems. They work and grow in the atmosphere of a seller's market, and they are somewhat like the proverbial fish out of water when the tables are turned. When a decline starts, the rapidity of descent is thus accelerated and the depression is carried further.

On the other hand, when business is dull, better men are available for training, the demand is not so acute, and thus training schedules can be carried out and possibly augmented. The men pass through their formative period in the atmosphere of a buyer's market. When business starts up grade, they are trained to the minute and "rearing to go" and so again the steepness and the amplitude of the curve are increased.

If it were possible to reverse the character of training in these two periods, or to use an electrical term, if the training curve could be made 180 degrees out of phase with the business prosperity curve, the valleys and the peaks could be flattened out to some extent.

It is not intended to encourage the slighting of training during the periods of depression. Many men, and well trained ones, are needed during the period of prosperity, but the need of high class and well trained men is most acute during periods of depression, and the time to train men for work during the depression period is when business is prosperous. It would be better to let some business get away during the time when orders come easily, if by so doing it would be possible to devote more time, thought, and energy to the securing and training of men who could get orders and stimulate business activity during slack times.

There are many difficulties in the way of carrying out any

such program. These difficulties seem almost insurmountable, but they would be lessened if the business world had more vision, more judgment, and more faith. Vision that would enable us at a greater distance to foresee the trend of things, judgment to decide upon the action necessary to meet that trend, and faith to act in accordance with our judgment.

PRESIDENT KINCAID: Now, during the discussion, we will proceed under the five-minute rule. We want to give everyone who wants to speak on the subject a chance.

It seems to me that a very important phase in the minds of everyone who is interested in marketing at the present time is to be found in the rules laid down in this report to so organize and train your sales force as to meet the adverse conditions we have to face in business periodically, and particularly the conditions we have to face now; the report shows some of the lines we should work along and some of the subjects which we should endeavor to place before our salesmen, and in what manner; in other words, the particular objects we should aim to accomplish with our salesmen in order to meet these conditions and how.

Are there any firms represented here selling more goods than a year ago? If so, how are you doing it? That is what we all should like to know.

MR. FRED W. TASNEY (Prudential Insurance Company): The market, after all, starts in the mind of the salesman. No one who has had experience in the selling line will question the fact that the salesman must first sell himself before he sells the customer.

Some years ago there was an investigation conducted in our line of business, the result of which, for a time, had a tendency to stand the business on its beam ends. Both Field men and those at the Home Office lost, for a time, their sense of proportion, overlooked the fact that they were dealing in a necessity, and, as a result, the business was practically at a standstill. Then some of the real executives with clear vision recognized that insurance was a necessity and that it would continue to be so, humanly speaking, through all time, and, having reached that mental conclusion within a very few hours, started a sales campaign which resulted in a larger production than for any corresponding period prior to the upheaval.

The other day I attended a meeting at which there was a distinctly pessimistic tone, until finally a rather rustic-looking chap was called on who seemed to radiate a sort of magnetism before he had uttered a word. I turned to the gentleman sitting beside me and remarked, "It will pay us to listen to this chap," who, in a sort of quiet drawl, opened up by saying, "There has been a good deal of pessimism here this afternoon, and the reason prob-

ably is that none of you have been capitalizing hard times." Continuing, he said, "As an illustration, the other day I went into Dan's place, he being an old country storekeeper. Dan said to me, 'You did not come in here to talk to me about life insurance, because if you did you will not get very far. I have just been inventorying my stuff and I am in the hole to the tune of \$2,000.' My reply was, 'I was not going to talk insurance to you, but as long as you started it I might as well finish it. Are you sure \$2,000 is all you have lost?' I asked. 'No,' he said, 'it is darn near three.' I immediately reached into my pocket, drew out an application, and filled it out in the amount of \$3,000. When Dan said, 'What are you doing?' I replied, 'I am saving your family from losing that \$3,000.' He signed the application, the policy has been issued and paid for, and I rather think that that was sort of capitalizing hard times."

If the salesman, or, as a matter of fact, any one of us is in the right mental attitude we can get results. There never has been a time of which that was not true. The examples multiply in every conceivable line of business.

If the executives to whom I have referred had not taken the mental attitude which they did, there might have been a different story to tell, but the instant that, in a sense, they sold themselves and then sold the idea to the actual salesmen, they, in turn, carried the message to the prospect and the sale was completed. There was a definite thing to be done; they went to it in a characteristic way and won out.

I am convinced that if we obtain and maintain the proper mental attitude toward our respective lines of business we shall continue to do a constantly bigger and better business.

MR. FAIRCLOUGH: I have found in the East that the stores are talking up the merchandise that they are getting now and its good values. To show the relation in values, I think the finest example of that was recently shown in one of our Boston stores. They displayed a number of articles, the prices of which totaled \$125.00 a year ago, and for the same amount of money this year they have displayed the same articles, and have added to these many more to total the same amount of money. The stores that I have visited seem to be stressing on the thought of their workers talking about good business and trying to spread the feeling of optimism. During a recent better service campaign held in our store we placed considerable stress on this particular subject.

MR. VON KERSBURG (R. H. Macy & Co., Inc.): I cannot give you very much information about the merchandising end of our business inasmuch as I am not closely associated with it. I do know, however, that business is materially going ahead of last year and that the number of transactions is greater than ever before. Perhaps one reason for this is due to the fact that during prosperous times we continue to train our sales people in anticipation of the depression which is generally conceded to follow such a period. I believe it is stated that economic depressions recur in cycles of seven years, as was the case in the years 1907, 1914 and 1921. As far as our business is concerned, the number of transactions is greater than ever before, due largely to the fact that it is our policy to undersell our competitors. The Macy slogan is "We sell dependable merchandise at lowest-in-the-city prices," and as a result we have increased our sales materially from year to year and expect that they will show a proportionate increase next year. This condition is also due in a large measure to the training of our sales people.

MR. KINCAID: I feel that we are striking the keynote; and the last speaker carried out, or his firm carried out its appreciation of the fact that we all can attempt to carry out, and that is, to train our sales people in beneficial methods during the times of great prosperity for the times when prosperity is not so great. That all goes to prove that if we give service with our sales and establish the right foundation, we can get sales when times are apparently bad; that has been proved too.

Now, there is just one point I might mention and that is the manufacturers' talking of this nation-wide business. One man told me that last Fall, when everybody was shading down their materials, in November and December, that they built up the stock and had a large surplus of goods, and that their sales for the first part of this year were about twenty per cent ahead of a year ago; not that the people ordered in large quantities, for orders were smaller per order than a year ago, but the fact that they had the stock of goods on the shelves and that they could get quick deliveries but not many road orders.

These are just suggestions as to how we can meet conditions and change adversity through sales methods and proper training into success.

Meeting then adjourned.

BANQUET ADDRESS ON "CHARACTER AS AN ASSET"

WEDNESDAY EVENING—JUNE 8, 1921

PRESIDENT KINCAID, Presiding

PRESIDENT KINCAID: At the meeting of the Board of Directors of the National Association of Corporation Training, held in New York last Saturday, a resolution was passed authorizing the President to appoint a Committee on Plan and Scope. It will be the duty of this committee to take into consideration the present condition of our Association, our plans and policies for the future, and to frame and submit to the Board of Trustees a plan for increasing the membership of the Association, financing the Association, and generally extending the influence of the Association as our finances may permit. I will announce the committee in order that you may submit to this committee any suggestions that you may have in your mind for the benefit of the Association in its present state of development, and for the future of the Association. I have the pleasure of announcing the appointment of Mr. L. L. Park, our past-President, as chairman of this committee. The full committee will be composed of the following-named gentlemen:

Committee on Plan and Scope

L. L. Park, Chairman, American Locomotive Company.
John McLeod, Carnegie Steel Company.
F. W. Tasney, Prudential Insurance Company.
H. A. Hopf, Federal Reserve Bank of New York.
Henry S. Dennison, Dennison Manufacturing Company.
F. C. Henderschott, The New York Edison Company.
F. H. Dodge, Burroughs Adding Machine Company.
(The dinner was then served.)

PRESIDENT KINCAID: I think it is very fortunate that we should have with us a gentleman who has a full measure of sympathy for the problems of both the employer and employe class to address us this evening, upon the occasion of this Convention, the chief object of which is the study of the relations between the management and shareholder and the employe, and to bring about better understanding and better relations between these classes.

I take pleasure in introducing to you my very good friend, Mr. A. Munro Grier, K.C., President of Canadian Power Company, who will speak to us upon the most interesting subject, "Character as an Asset."

MR. GRIER: It is a great pleasure for me to speak to you tonight, but, of course, not as one having any great reputation as a speaker or anything of that kind, but as one who lays claim to one thing, and that is to be sincere. I am a believer in the audience being *en rapport* with the speaker, and I therefore tell you I produce from my pocket an envelope upon which I recorded certain notes, but these notes do not embody what I am going to say to you, because I have never found anything which has been prepared in advance that I considered worth memorizing, so you will, equally with myself, watch the formation of every single sentence, without exception to which you will listen. I know not one single sentence now I am going to utter tonight.

I mention that, and I mention also the fact that I have a very excellent text, namely, "Character as an Asset," because I wish to tell a story against anyone who does make these two sets of statements—they are both told of Temple, who was a great churchman, at one time Bishop of Exeter, and later on, Archbishop of Canterbury. He was a man of very kind heart, but he was rude, and occasionally rather trenchant in his observations. He went to hear a sermon to be preached by a curate, who was acting in the place of the vicar. He went to the church, and the curate preached; and the curate was, unfortunately, one of those anxious to disarm criticism, and he said to the bishop on the way from the church, "Did you approve the text I chose this morning and my method of treating it in my sermon?" The archbishop replied, "I have not anything to complain of about the text," which was not very comforting to the curate.

Later on the same churchman went to hear a sermon and again was disappointed in not hearing the man he expected to hear, and he heard another curate, and this curate, unfortunately for himself, said to the archbishop, as he walked past the pew in which the archbishop was seated, "You know, Your Grace, I made a vow to always preach impromptu." The curate preached his sermon, and at the end of the sermon the archbishop put his head in at the vestry door and said, "I will absolve you from that vow."

It is therefore conceivable that you can absolve me from such a vow. I was going to tell you about this piece of paper. Amongst my other imperfections is that of having a very treacherous memory, and I should like to remember some of the points I wish to touch upon in my talk to you tonight, so I have put these things here, and indicated their order, because, as you know, occasionally order is a matter of importance, and those who have heard me tell this story know. It is a story of the Emperor Frederick the Great, who, as I am told, at one time formed a regiment of giants, and one fine day an Irishman was acquired who was sent to the drill sergeant who had power to instruct every recruit as to the answer to be made to three questions which the Emperor invariably put to a recruit. The questions were: How old are you? How long have you been in the army? Do they supply you with proper food and clothing? The answer to the first question should have been—twenty-seven years; to the next, two or three weeks, and to the question, Do they supply you with enough food and clothing? of course, the answer should be "Yes." The Emperor asked the questions, and to the first question, "How old are you?" the recruit answered "Two weeks." To the second question, "How long have you been in the army?" the recruit answered, "Twenty-seven." The Emperor then asked the question, "Am I a fool or are you?" and the answer was, "Both." You see, therefore, that I have to be very particular on the subject of order.

Now, as to this text, "Character as an Asset," I may say, amongst the things I am not, is this—I am not a financier and know nothing about assets or anything of the sort, but character is a wonderful asset—in fact, in my individual mind, it is the greatest asset on earth. I am not a lover of those who are affecting false positions. I try never to adopt these false positions myself. On the other hand, I claim to have a distinct notion in regard to one or two things, and one of these things is a definite thing fixed in my mind that a man is an absolute donkey who supposes that he who acquires a great deal of wealth and has no character that is worth speaking of, is to be compared, as one owning things worth while, with the man who has a fine character, no matter how small his material possessions may be. (Applause.)

Let us review, for a moment, what is character. Character

is frequently confused with reputation. Character is not reputation—character and reputation may coincide, and probably frequently they do, but you may have a man of fine character with a reputation by no means equal to it, or a man of good reputation whose character does not equal it. I shall tell you of an observation made by Oliver Wendell Holmes, who wrote of two men (a) and (b), who had met together and who had disagreed, and he said, "It is only natural that there should be a point of disagreement between six men." His friends wanted to know why he referred to six men. He said, "The real—there is the real (a), there is the (a) that (b) supposes him to be, and there is the (a) that everybody else supposes him to be, and the same thing is true about (b)." I am dealing, not with the conception of a man of himself, but of the conception that others have of him. Reputation is what men and women see of us. Character is what God and angels know us to be, and there is another distinction yet as to character, one which I like very greatly, and that is that character is that which we are in the dark. It is the actual measurement or construction of ourselves as to ourselves.

It is the real thing that I am concerned with this evening, and I suggest to you who doubtless have thought of this subject, that it is worth while for us to constantly think of it, and to a certain extent, at all events, try to impress it on others. I am not speaking to you as one who knows this subject better than you do. I am not one who assumes, forsooth, any position of intellectual superiority; on the contrary, I should prefer that you should consider me on the same plane with yourselves, or, if you like, I am looking up to you. It is the matter of our getting together and considering this thing.

I spoke just now of the comparative status of the man on one side who devoted himself primarily to acquisition of wealth, and the other man who has had under consideration such things as character. What is the daily life and nightly life of a man who has given himself primarily to the acquisition of wealth, and thinks of little else than that one subject? What does he amount to? What is his life actually to him? Do you suppose a man can attain to great wealth and yet have his mind occupied by higher things? I am not an ass to suggest it is not a good thing to get on, I am not any such a fool, as to suggest that it

does not make us happy to see those dependent on us well provided for, but this thing I shall asseverate, and hope constantly to do so, and it is this—that the prime object in life is not to acquire material possessions, and so far as my life experience goes, with many of the men whom the world has called failures, in my judgment, they have been amongst its greatest successes, because they have forgotten themselves, and have sacrificed themselves for others, they may not have much in the way of pounds, shillings and pence, dollars or cents, but they have a character that is worth while and is better than material success.

Let us consider one day in the life of these two opposite men, and I think you know pretty well the types I am trying to indicate to you. One man, I am supposing now, is desirous primarily and almost exclusively to attain wealth. How can he let his mind and heart go out to the things that pass around him? What regard does he pay to any incident in the street car in which he may be journeying? These things are not such as to attract his notice, the doings of men and women in their everyday lives are not matters of interest to him. Take him into the country—do you suppose his mind and heart is engaged with the beauty of the trees and flowers, the song of the birds, and the fragrance of the flowers around him? Not so. What are these things to him? His object in life is to accumulate gold, and that which gold represents. With that same character he goes about all day, and goes to bed with it at night. I tell you, I would rather have just enough to live on than be devoid of character.

On the other hand, take a man whose mind and heart are not primarily directed to this thing—of course, he is not an ass, he knows that he has to acquire sufficient to keep himself and those dependent upon him, but beyond that he has all sorts of interests. If he gets on a street car and there is anything that takes place between a man or woman and a boy or girl, he sees that. There is nothing that escapes his observation. Take him into the country, and do you suppose that he will be indifferent of the charm of the things around him? For him is all the wealth of woods, for him all the beauties of the song, and colorings of the birds, that is his wealth, and at night he retires to bed proud of his own character, and of the peace and calm constantly with him, born of the beauty of the character that he possesses.

Let me say one or two things as to the cultivation of this,

assuming that we agree it is worth while, and I trust nothing I say will be appalling to you. In my individual opinion, one of the first things that any man or woman, boy or girl has to get rid of is fear. I am not infringing on the religious views of any of you for the purpose of this utterance, but I say, aside from any dogmatic touch, in my humble judgment, no boy or girl, man or woman, can start and walk upright unless they are rid of the ever-present fear, because after you get rid of that, the world is not a matter of dread to you, for it is a fact, and not a mere utterance, that God is love, and to you it means thereafter, no matter what dark or storm may come, there is light and calm, because these things are within you, are not dependent on the happenings of the day or the condition of the weather as it may be from hour to hour. So give up dread and go forward with a fearless mind.

What man, without dread, can help being courageous? And so I pause, for a moment to point out to you that the men and women in public life throughout the world who are mostly admired are the courageous men and women. Courage is a great virtue, not the highest of all—and if men more frequently would say not that which they think the multitude would wish them to say, but the things they actually feel themselves, I venture to say they would have a success which in their most optimistic moments they never dreamed of, and this thing is likely to come with an absence of dread, and also with truth, because most untruths arise from fear.

Let us consider one or two things to be cultivated. One of them is the health of the body. That is something which you doubtless, as an Association deal with, and deal with in a far better way than I can. But obviously it is something for the well-equipped man to look after.

Pass from the health of the body to the health of the mind. There are too many of us neglectful of that, too many of us fail to enrich our lives in the way in which we might enrich them. How content we are with our imperfect knowledge of matters of art, for instance,—we almost pride ourselves on our ignorance of these things. We forget that there is great advantage in having certain well-defined opinions in matters of this sort. Among other things, it will prevent your being carried away by every passing wind in favor of ridiculous monstrosities which are some-

times exhibited as pictures—those things in which it appears to be clearly a matter of indifference whether you hang them upside down or sideways—in some cases it is very much better to hang them that way, than to hang them right side up. These things may be avoided, and add to the richness of our lives. If we add to our knowledge a real knowledge of the great things that have been done by men with pencil and pen in the old days, and which men are doing today, notably in your country, in the United States, we should put ourselves in the position to enjoy works of art to a much greater extent.

I shall pass from that to another matter, which to my mind is of extreme importance—that of music. I am not an expert or connoisseur in musical matters, I am distinctly not in the “know” about music, but I do make a claim to a tremendous love for it. It is not enough for us to be content with what we know. There we are quite ridiculous in our assumption of satisfaction at our ignorance. Let us grow in knowledge—if it is for no other reason than that we may appreciate, perhaps, better to wait the event of things.

I pass now—to dwell on the spirit. Here I tread warily and delicately, because it is a supreme thing. In my judgment, whether we cultivate health of the body, or health of the mind, we shall not attain to the highest things. I dislike to use a word like “soul” because it is worn threadbare, in my opinion, but to use the word “spirit” I think it is the rarest thing of all.

What have I to say about this thing, the spirit? I make no profession of superior knowledge with regard to this or anything that I am talking about. What can I suggest? A thought which came into my mind is in life we are too well content to have one of two views, either the view from the street or the view from the height. May I suggest to you we should have both views. If we do not have the view from the street, then we are not well aware of our neighbor’s joys and sorrows, and unless we are classed with him, rubbing elbows with him, it is unlikely we shall be able to encompass the depths of his sorrows or attain the heights of his joys, because if we have that alone, it is not enough, things bulk too largely, we are confronted with things that seem absolutely not to be gotten over, because we are on this plane, but if we go to the height,—mark the great value of this figure I shall give now—if we go to the height what do we see? Those things

which were apparently the largest things on earth are by no means so now. There are nearby things of greater height, not always morass, bog, and things unpleasant. We see beyond the fields on which the sun is shining, effects which are beautiful to see, so that you cannot, by the lowly view get the perspective which enables you to properly appreciate the relation of things, you must get the highest view which enables you to give the proper proportion of value to all things. And then I suggest that you are likely to attain something which is rarely found, spirit, and if a man has sought after those things I have but little doubt that there will be concrete growth in a character that is worth while, and the supreme note of all of that is always love. We never get beyond that, some times when we are very young, perhaps we think we may, but as we grow older, we realize that through the whole length and breadth of the world, there is nothing pure without love and, mark you, the beautiful exhalation which comes from it.

Are we not all charmed by beautiful manners and are we not horrified by the reverse, and, after all, what are good manners? Their one inevitable outcome is consideration for others. What is consideration for others? It is based on love, so that we begin with that and we end with that.

I was going to say outside of my subject—and yet, it is perhaps not altogether outside of it; at all events, in my judgment it seems to me to be related to it. I shall allude for a moment to two great countries, two great representative brotherhoods, represented here tonight and interpreted by these flags to which I shall allude in a moment. What is our duty to one another? I do not like to speak in any public gathering in which there are representatives of two countries, without making some reference to what I conceive to be almost a prime duty of every man and woman in the present day. I suggest this to you that there is hardly a greater criminal on earth today than the man who sets to work to divide in any way the cordial relations of the United States of America and the British Empire. (Applause.) I would have you who are of the United States of America bear this in mind, and also those who come from across the sea—My ancestors and your ancestors also largely came from there—that is one of the most criminal of men who seeks to divide us; and now, let me say positively that I hold there is hardly a better service to be done than to try to knit together more closely these two coun-

tries, the United States of America and the British Empire. (Applause.)

I want to remind you just for a moment of the suggestion made by Ian Hay in that book of his, "Getting Together," which I used frequently in your great country during the war, and let us remind ourselves of that. There are two sets of instructions given in that book, one to a British officer, and the other to an American officer. This is the advice which was given to the Britisher who is approaching a well-meaning and a well-intentioned American. The first instruction was—"Remember, you are speaking to a friend." That is an instruction which may seem to you a little odd until I get later on with my story. The second instruction to the Britisher who is going to speak to the American is this—"Remember that you are speaking to a man who comes from a country which he believes to be the greatest country on earth. He will probably tell you this."

With regard to the advice given to the American, No. 1 is identical with No. 1 to the Britisher—"Remember that you are speaking to a friend." No. 2 is "Remember that you are speaking to a man who comes from a country which he believes to be the greatest country upon earth. He will not tell you this, but that is because he takes it for granted that you know it already."

Now, ladies and gentlemen, perhaps that not improperly suggests the weakness of us both. At all events, it seems to me if we get together in that sort of spirit, then unquestionably, we in our several ways will help on this splendid work, and it is a fine work. There is no humbug about it. In my judgment, the welfare of the world largely depends on the cementing of our friendship.

Now, as to your Association, may I wish you every success and apologize to you for all the shortcomings of this sort of helter skelter utterance you have listened to tonight, and may I, in conclusion, once more say what I have already said with regard to these countries and I should like to preface it with this statement, which to me is almost an article of creed, almost an article of faith—I have scarcely met in my whole life anyone in any country, your own included, who had a greater affection and a greater respect and greater admiration for one of your men, whom I count as one of the very greatest human beings with respect to those things which I suggest to you as worth trying for, a man whom to my notion perhaps showed more than any other human

being and more than any one who trod the earth, save One, his sympathy with the human race—I allude to Abraham Lincoln. (Applause.) Certainly there should be no severance or discord, upon the other hand there should always be the closest intimacy and friendship, between the land of Lincoln, who perhaps more than any other human being exemplified the fine qualities which should be those of any man who claims to be a leader of men and exhibited a breadth of human sympathy almost unparalleled in the history of the world, and the land of Shakespeare, that gigantic intellect who enriched and still enriches the world with the vast array of splendid characters he portrayed to the constant admiration of mankind. (Applause.)

PRESIDENT KINCAID: I feel that I am unprepared in words or in spirit, to express to Mr. Grier our very deep appreciation for the pleasure he has given us by his very kind and feeling address.

Let us give a rising vote of thanks to Mr. Grier for his address.

(The company then rose as evidence of appreciation of the address of Mr. Grier, and then adjourned to the ballroom for dancing.)

EMPLOYMENT

THURSDAY MORNING—JUNE 9, 1921

MR. L. L. PARK, Presiding

MR. PARK: Mr. H. E. von Kersburg, Chairman of the Committee on Employment, will present his report.

CHAIRMAN VON KERSBURG: The Committee on Employment felt that it faced an almost hopeless task when it started to prepare this report, inasmuch as we seemed to have been assigned practically the same subject that had been so well handled by the committees of the past few years. We have taken several liberties in writing this report and as a result have digressed a bit from the subject at hand. The work assigned to the Committee on Employment was "(a) To define the scope and function of a Standard Employment Department." The word "Standard" was the "fly in the ointment." In our opinion, we felt that it is no more possible to standardize an Employment Department than it is for a physician to standardize the treatment for all human ailments. We have made an effort, though, to standardize an Employment Department in this way—we have considered the Personnel Department as a whole, and then taken up separately the subdivisions.

Our reason for doing this was that in small organizations all the activities that we have outlined under a Personnel Department could not be used, and even in a large organization all the activities may not be used. Therefore, our idea was that an organization should use the activities that best suited its peculiar needs and discard the others.

The next subject assigned to the Committee was "(b) To study the relations of the Employment Department, to other subdivisions of Personnel Work—Training Department, Health Department, Welfare Department, Safety Department, etc."

There again we had to consider the Personnel Department as a whole in order to thoroughly discuss this subject.

The next subject (c): "To study and report the relations of the Employment Department to Production, Accounting and Financing, Traffic and Marketing."

We experienced great difficulty in obtaining information on this sub-division.

The Committee meetings were not well attended. A great many people had to adjust their departments to the sudden change in economic conditions and then again a great many were to far away from New York to attend the meetings without neglecting their work. We decided to send out a questionnaire, the responses to which were very encouraging. We sent these questionnaires to about 125 or 130 different organizations, and received replies from 62, and the majority of which were very, very good.

We felt that no time was more opportune than the present to discuss the tendency of many employers to discontinue Employment work, or, let us call it Personnel work. During the war they felt that the Employment Department—the Personnel Department, was a necessity, but as soon as the reconstruction period was over, they felt that the fancy stuff had to be eliminated and overhead reduced. They are shortsighted when they feel this way, for we all know that farsighted business men realize that a well organized Personnel Department is a great saving in dollars and cents.

First of all, we have a brief dissertation on the word "Personnel." We feel that there is no word more misused or abused. You can seldom tell what it refers to even when used by people who are actually engaged in this particular kind of work. We decided to divide the Personnel Department into the following sub-divisions.

1. Employment Department
2. Training or Educational Department
3. Personal Relations Department
4. Research or Planning Department
5. Safety Department.

In order to cover the subject as thoroughly as possible, we have outlined the activities that come under these various departments. We feel that we have covered the subject rather thoroughly—there may be certain activities that we have omitted, but we doubt it, as we have included every imaginable activity that we have ever used, or which we have heard was being used by other organizations.

COMMITTEE ON EMPLOYMENT

MR. H. E. VON KERSBURG, *Chairman*

R. H. MACY & CO., INC.
Broadway & 34th Street
New York City

MR. E. G. ANDERSON

NEW YORK TELEPHONE COMPANY
15 Dey Street, New York City

MR. L. R. ALLEY

SERVICE MOTOR TRUCK CO.
Wabash, Indiana

MR. G. A. GLYER

MARSHALL-WELLS COMPANY
Duluth, Minnesota

MRS. R. W. ARMSTRONG

EASTMAN KODAK COMPANY
Rochester, New York

MR. G. D. HALSEY

WOODWARD LOTHROP COMPANY
Washington, D. C.

MR. S. R. RECTANUS

THE AMERICAN ROLLING MILL COM-
PANY
Middletown, Ohio

MR. E. W. GRESSLE

THE WARNER & SWASEY COMPANY
Cleveland, Ohio

MR. N. F. DOUGHERTY

MODERN HOUSING CORPORATION
Flint, Michigan

MR. W. S. MACARTHUR

ARMOUR & COMPANY
Union Stock Yards
Chicago, Illinois

MR. J. McKINNEY

AMERICAN SCHOOL OF CORRESPOND-
ENCE
Chicago, Illinois

FOREWORD

The work assigned to the Committee on Employment was

(a) To define the scope and function of a Standard Employment Department.

(b) To study the relations of the Employment Department to other sub-divisions of Personnel Work—Training Department, Health Department, Welfare Department, Safety Department, etc.

(c) To study and report the relations of the Employment Department to Production, Accounting and Financing, Traffic, and Marketing.

Two meetings of the Committee were called. These meetings were attended by Mrs. Robert W. Armstrong of the Eastman Kodak Company, Rochester, New York; Mr. E. G. Anderson of the New York Telephone Company, New York City; and Mr. H. E. Von Kersburg of R. H. Macy & Co., Inc., New York City. The poor attendance at these meetings was due in part to the geographical location of many members of the Committee and to the quite recent change in economic conditions which made it necessary for them to remain at their posts and adjust their contemplated programs to the new order of things in industry. For the above reasons, in order to compile this report, the following questionnaire was sent to one hundred and twenty-three Class "A" members of the N. A. C. T.

1. Will you kindly define what in your judgment is the scope and function of a standard Employment Department including Job Analysis, Psychological and other Rating Tests?

2. Will you please explain the relation of your Employment Department to the other sub-divisions of Personnel work?

3. What is the relation of your Employment Department to Production, Accounting and Financing, Traffic or Distribution, and Marketing?

We regret that we cannot publish in full the interesting

answers received from those organizations which have fully developed Employment Departments. Of the sixty-two organizations which replied to our letter, 77 per cent report that they have such Departments. There was a natural divergence of opinion, but in the main it was evident that the underlying practices of the Employment Department are much the same in all organizations where an effort has been made to bring about mutual understanding between employer and employe. The Committee takes this opportunity to express its appreciation for the information given by the organizations consulted.

H. E. VON KERSBURG.

Chairman.

PREFACE

At the two meetings of the Committee on Employment the assigned duties were thoroughly discussed and it was decided that we should briefly mention in the preface of our report a most important and timely subject—"Selling the Personnel Idea to the Management." Within the past few months many articles concerning the curtailment of personnel activities have appeared in the newspapers and magazines. If the situation were as dark as it is often represented, there would be no necessity for writing the following report. The cutting down, however, has been done by those who are so short sighted as to believe that these activities were necessary only for the war and reconstruction periods. We believe that many Personnel Managers must now eliminate all of the unnecessary frills, and conclusively prove that the department itself is a true economy in dollars and cents. Nothing that we have discovered quite expresses our idea or covers the subject more completely than the following article which appeared in the January 9th issue of the New York Times.

EMPLOYERS CUT OFF "PERSONNEL" WORK

With Labor Surplus the "Human" Element in Management is Disappearing

A MISTAKE, SAYS MEDIATOR

Edward D. Jackson Makes a Plea for "Human Factors in Industry"

"Although the epidemic of strikes of a year ago has disappeared and there are now only sporadic outbreaks, the general industrial conditions in the state have not improved, according to Edward D. Jackson, Chief Mediator of the Bureau of Mediation and Arbitration of New York State Industrial Commission. He points out that the recent tendency in all basic industries toward curtailed production entailing shut-down, labor cutting, and in some cases wage reductions has gradually produced a labor surplus. This condition has bred a chaotic and unstable labor market.

"At this juncture, it is interesting to note the attitude of the management toward changing conditions. At the present time there seems to be a marked movement by management toward the curtailment, and even elimination, of what is commonly known as Personnel Administration. One large corporation which had formerly set aside a yearly budget of \$100,000 for such work, maintaining forty people on the Personnel Staff, has practically eliminated the budget and reduced the Personnel Department to five. Several other corporations have recently moderated their efforts in these lines, feeling that they should cut down the 'fancy' stuff first.

"It will be unfortunate if the movement to conserve and develop the human factors in industry, built up during the strain of the war period, is to be thrust aside as unnecessary overhead. It seems unwise that the great progress made in the direction of improved industrial relations should be brought to a halt at the first sign of industrial depression. As a matter of fact, skillful management of the human problems involved is probably the only thing which can save the community from the worst horrors of an unemployment period.

"No time more than the present demands the retention of the emphasis on the human elements in industry. The standard of careful selection, placement and training of workers; the study of the relation of the job to the worker; factory housekeeping; machinery for the scientific and satisfactory adjustment of working conditions, and all the other basic elements in the administration of the human side of industry should be maintained as a matter of true economy and as an aid to speedy recovery of economic health.

"Cooperation between labor and employers undoubtedly can be achieved at this time by the use of such methods directly at regularization of employment and standardization of production."

REPORT OF THE COMMITTEE ON EMPLOYMENT

So much data have been published within the past few years about Employment Management that the Committee realizes the difficult task ahead in attempting to amplify what has already been so well covered. No word has been more misused or abused in referring to the human element in industry than Personnel. As a result, the confusion in the terminology describing employer-employee relations makes it necessary that some attempt at standardization should be made before proceeding with this report.

Definitions

The word Personnel refers to a force of persons collectively employed. The Personnel Department is the connecting link between employer and employee, a department which has hitherto been scattered and indifferently handled.

Some organizations which maintain an Employment and Health Department refer to it as a Personnel Department, while still others with only an Employment Department refer to it likewise as a Personnel Department. Why should there not be some standardization of this term? In the replies to the Committee's questionnaire thirty-seven different titles were signed to the letters. This is confusing and does not tend toward the standardization of Personnel Work nor the sale of the Personnel idea to the Management. These titles should also be standardized as much as possible, for only in this way will the standardization of the work of the Personnel Department be brought about. In this report we shall refer to the Personnel Department as composed of:

1. Employment Department.
2. Training or Educational Department.
3. Personal Relations Department.
4. Research or Planning Department.
5. Safety Department.

An Employment Department is that division of the organization which is directly concerned with the acquisition of employees. It is one of the coordinate units of that broader division of the organization—the Personnel Department. The Employment Department is the outgrowth of a feeling on the part of the management that standardization and economy can best be accomplished

by a centralization of everything pertaining to employment under the supervision of people who are qualified by experience and education to give special attention to the problems presented. A fully developed Employment Department should function as completely in the acquisition or purchase of human material as does the Purchasing Department in the buying of raw materials. On the whole it is no more foolish and illogical for some member of an organization who needs help to reinterview an applicant sent to him by the Employment Department, than it would be for the Manager of one of the Production Departments personally to examine each piece of material ordered by the Purchasing Department. Such procedure, except in the cases of the most skilled employes, is a stumbling block to the development of a full-fledged Employment Department.

It is hardly probable that there is in operation at the present moment a department which could be called a standard Employment Department. In a large degree this is a result of the fact that an Employment Department must necessarily reflect the particular requirements of the organization which it serves and excessive standardization would destroy its efficiency. It would be impossible to standardize the varying conditions that exist in industrial, commercial, and transportational organizations. This is best illustrated by the comparison of an industrial plant with a merchandising organization. Such differences as occur, however, are in the sources of supply, organization, and interviewing of applicants, while in general the same underlying principles will hold good.

I. The Scope and Function of a Standard Employment Department, Including Job Analysis, Psychological and Other Rating Tests

A standard Employment Department should have within its scope all of the activities connected with the securing, selecting and placing of employes within the organization in such a way as to create the greatest satisfaction on the part of the employer and employe. This involves an intimate knowledge of the various sources of labor supply; a knowledge of positions or operations

gained through job analyses, in order that the applicant may be suited to the needs of the job; determination of the physical, mental and technical fitness of applicants through Psychological and other Rating Tests.

It is generally agreed among organizations where an Employment Department had been carefully worked out that Job Analyses, including occupational descriptions, lines of promotion, duties, and other essential details are absolutely necessary if the Employment Department is to operate intelligently. This is particularly true in the case of large organizations where there are a great number of different positions to be filled. In a small organization, or in a large organization where there is a decided similarity of jobs, the need for a Job Specification Sheet is not so essential since the Employment Manager ought to be able to carry the Job Analyses in his head. Seventy per cent of the Employment Managers consulted state that a Job Analysis is in use in their organizations at the present time. Of the remaining thirty per cent—six per cent definitely reject a Job Analysis and twenty-four per cent fail to discuss this question.

In like manner sixty-two per cent of the organizations are using tests in one form or another. About twenty-six per cent of the entire number are using Psychological Tests. Thirteen per cent are not in favor of tests, and twenty-five per cent do not mention this subject. The majority of the thirteen per cent rejecting tests, refer to psychological rather than trade or performance tests. It is generally admitted that the idea of tests of a psychological nature has not been sold to industry. One Employment Manager points out that there are possibilities of great harm in using such tests where the management and executives do not entirely believe in them. The use of the word psychological in itself has no doubt prejudiced otherwise open-minded employers against these tests; whereas if some simpler term had been used these employers might have been influenced to consider them. It has been found, however, that where sane and sound methods have been used in adapting these tests to the needs of an organization, the results have proved quite satisfactory.

II. The Relation of the Employment Department to the Other Divisions of Personnel Department, Training, Health, Safety, etc.

In a large organization the above mentioned departments should be separate and coordinate divisions of the Personnel Department under the supervision of a President or Vice-President whose chief duties should be the administering of Personnel activities. The Employment Manager, Superintendent of Training or Education, Director of Personal Relations, Director of Research, and Director of Safety are answerable only to the Personnel Officer. Each department, however, should so cooperate with every other department as to bring about coordination of effort. In a small organization, where the personnel activities are necessarily limited, they should be in charge of the Employment Manager. A separation of the work into subdivisions, even in the small organization where each is not a separate entity, will make for clarity and efficiency.

III. The Relation of the Employment Department to Production, Finance, Traffic and Marketing

It is generally agreed that the relation existing between Employment and Production is much closer than that between Employment and Accounting, Financing, Traffic Distribution, Marketing or Selling. This is particularly true in industrial plants where the quantity, quality and cost of the product depend so directly on the caliber and suitability of employees chosen by the Employment Department. The relation to the other sub-divisions of an industrial, commercial, or transportation organization should be such as to furnish these departments with the most efficient help possible.

Employment Department

I. Sources of Supply

A. Advertising

1. Classified—help wanted
 - a. Open advertisements
 - b. Blind advertisements

2. Situations wanted
3. Display
4. Street car advertisements.
5. Motion pictures
6. Shop papers or house publications

B. Employment agencies

1. Commercial agencies
2. Social or non-commercial agencies
 - a. Y. M. C. A., Y. W. C. A., K. of C., Red Cross, etc.
 - b. Charity organization society
3. Public employment offices
 - a. State
 - b. Federal
4. Trade unions conducting employment agencies

C. Educational institutions

1. Colleges and technical schools
2. High school students for full or part time employment.
3. Textile and other trade schools
4. Business schools

D. Labor scouts

E. Recommendations of employes

F. Recommendations of customers

G. Reemployment of former employes

H. Help wanted bulletin boards

I. Contact with organizations reducing force

J. Future reference files

K. Industrial census or canvass

L. Teachers and pastors

M. Apprentices

II. *Routing of Employee through Employment Office*

A. Reception

B. Preliminary interview

C. Application form

D. Interview and selection ("selling the job")

1. Daily list of requirements
2. Job analyses

- 3. Hours
- 4. Wages
- 5. Opportunities for advancement
- 6. Social opportunities
- E. Test—Psychological or other tests
- F. Highly skilled applicants sent to department heads
- G. Preemployment physical examination
- H. Hiring and assigning
 - 1. Finger prints or photographs
 - 2. Signing of employes' agreement
 - 3. State, non-resident, or alien income tax forms
 - 4. Bonding of employes
 - 5. Assigning of working equipment
 - a. Lockers
 - b. Time badges, numbers or identification tags
 - c. Tools
- I. Booklet of rules and regulations
- J. Sent to department with employment receipt
- K. Reception committee
 - 1. Introduction to foreman or other department head
 - 2. Introduction to training or educational department
 - 3. Introduction to employes' service departments

III. *Record of Employes*

- A. Signed employment receipt sent to time office
- B. Employment receipt returned to employment office
- C. Record sent to salary office
- D. Individual employment record card
 - 1. Data on application blank entered
 - 2. Flagging of previous experience for possible transfers or promotion
- E. References sent out
- F. Home address verified
- G. Returned reference checked on record card
- H. Record card filed in live file with returned references, birth certificate, or working papers
- I. Notation of change of address

IV. *Follow-up*—Transfer and Promotion

- A. Follow up new employes by interviewer at fixed intervals
- B. Follow up new employes by department head for rating sheet
- C. Follow up new employes by representative of testing division
- D. Transfer, lay off, or promotion, if advisable
- E. Adjustment of complaints
- F. Investigation of absences and lateness

V. *Separations*

A. Resignations

- 1. Payment of salary deferred in order that all quitting employes may be interviewed as to their reason for leaving
 - a. Effort made to persuade employe to reconsider resignation
 - 1. Returning to same department
 - 2. Transferred to another department
 - b. Resignation slip, made out in duplicate
 - 1. Original sent to salary office.
 - 2. Duplicate kept in employment office for labor turnover record
 - 3. Notation made on employe's record card
 - 4. Record card withdrawn from live file and placed in dead file for
 - a. Request for references
 - b. Reemployment

B. Lay Offs

- 1. Recommendation of department head or foreman sent to employment office
 - a. Reduction of force
 - 1. Employes interviewed for possible transfer
 - b. Undesirable employes
 - 1. Interviewed, and in case of proof of unjust treatment transferred to another department

2. Lay-off slip, with reason for discharge made out in duplicate

a. Original sent to salary office

1. Pay envelope sent to employment office for immediate payment of salary to employe

2. Employe's receipt sent to salary office

b. Duplicate kept in employment office for labor turnover report

VI. Labor Turnover Report

- A. Copy to president or vice-president (personnel manager)
- B. Copy of departmental turnover to each department head

Training or Educational Department

- I. General instructions to new employes
- II. Instruction in care of tools and equipment
- III. Apprenticeship
- IV. Night schools
- V. Trade schools
- VI. Textile classes
- VII. Salesmanship and merchandising classes
- VIII. Instructions in use of comptometer, typewriter and billing machines
- IX. Stenographic and business English classes
- X. Familiarize employes with all operations in manufacturing of product
- XI. Instruction through motion pictures
- XII. Training of Juniors for promotion
- XIII. Continuation school
- XIV. Training courses for executives and foremen
- XV. Follow-up work of employes, particularly in case of low efficiency
- XVI. Special training for college graduates
- XVII. Classes in home economics, dress-making, etc.
- XVIII. Americanization classes
 - A. English to foreigners
 - B. Naturalization

- XIX. Literary and educational clubs
- XX. Collection of current magazine articles for distribution
- XXI. Cooperation with local educational institutions
- XXII. Preparation of department manuals
- XXIII. Bulletin board information
- XXIV. Noon, day and evening mass meetings

Personal Relations Department

I. *Health*

- A. Preemployment physical examination
- B. Post employment physical examination
- C. Periodic reexamination of employees exposed to industrial hazards
- D. Treatment of medical cases
- E. Treatment of surgical and accident cases
- F. Dentist
- G. Chiropodist
- H. Eye specialist
- I. Free consultation with doctor or nurse
- J. Visiting nurse and house nurse
- K. Vaccination as a prevention of epidemics
- L. Prevention of communicable diseases
- M. Cooperation in investigation of absences
- N. Furnish statistics pertaining to health
- O. Prepare health lectures and printed matter for employee's magazine
- P. Medical advice and assistance to families
- Q. Study fatigue and suggest rest periods
- R. References to specialists and hospitals
- S. Special district control in epidemics
- T. Adequate examination and treatment records
 - 1. Orchestra or band

II. *Recreational Activities*

- A. Athletics
- B. Dramatics
- C. Music

1. Orchestra or band
2. Chorus or quartette
3. Plant sings

- D. Dances
- E. Clubs
- F. Holiday outings
- G. Lectures
- H. Theatre and card parties
- I. Vacation houses, camps or farms

III. *Library*

- A. Circulating fiction library
- B. Technical library
- C. Current magazines to be read in the library
- D. Cooperation with city free library

IV. *Advice to Employees*

- A. Vocational
- B. Legal
- C. Personal
- D. Domestic

V. *Thrift Activities*

- A. Banks and savings clubs
- B. Building and loan
- C. Stock holding plans

VI. *Transportation and housing facilities*

VII. *Employees' restaurants and cafeterias*

VIII. *Supervision of benefit or insurance plan covering sickness, accident, or death*

IX. *Supervision of pensions*

X. *Supervision of plant publication*

XI. *Loans to employees*

XII. *Rest and recreation rooms*

XIII. *Social service worker*

XIV. *Cooperation with charity organization society*

XV. *Sales for employees*

XVI. *Employees' cooperative store*

XVII. *Dry shoes and stockings*

- XVIII. *Umbrella club*
- XIX. *Lost and found department*
- XX. *Garage for employes*

Planning Department

- I. Charting and statistical work
- II. Cooperate in job analyses
- III. Preparation of thrift, stock ownership, vacation, and insurance plans
- IV. Study and recommend wage payment and bonus plans
- V. Preparation of reports on subjects assigned for investigation by department heads
- VI. Time and motion studies
- VII. Working out of forms
- VIII. New project plans
- IX. Efficiency studies
- X. Cost of living studies
- XI. Shop control studies
- XII. Production standards
- XIII. Routine plans
- XIV. Suggestion system
- XV. Maintain clipping file and reference library on current topics for personnel division and executives
- XVI. Pension records

Safety Department

- I. *Accident Prevention*
 - A. Safeguarding hazards
 - B. Frequent factory inspection by
 - 1. Safety engineer
 - 2. Member employes' safety committee
 - C. Building inspection
 - D. Safety education
 - E. Investigation of accidents and near accidents
- II. *Report All Accidents to Proper Authorities*
 - A. State compensation commission
 - B. Personal relations department

III. *Fire Prevention*

- A. Sprinkler systems**
- B. Fire drills**
- C. Removal of waste materials**

IV. *Elimination of Industrial Disease Hazards*

V. *Sanitation*

- A. Regular sanitary inspections of entire establishment**
- B. Drinking water**
- C. Ventilation**
- D. Heating**
- E. Lighting**
- F. Toilets and locker rooms**
- G. General sanitary conditions**

VI. *General Supervision of Working Conditions*

VII. *Adequate Records and Statistics*

The foregoing outline, with the elimination of those activities not suitable on account of the size of any particular organization, ought to answer for a standard personnel department in a commercial, industrial or transportation organization.

The following "Standard Test Examination on Employment Management and Safety Engineering" prepared by Mr. James McKinney, Educational Director of the American School of Correspondence, will doubtless be of great interest to all of those who are engaged in personnel work.

**Standard Test Examination on
Employment Management and Safety Engineering**

The purpose of the following questions is to determine the eligibility of persons who are not graduates of the American School to share in the benefits of our Employment Service Department. It is supplementary to the self-analysis blank which all, student or otherwise, must fill out.

On the basis of the answers to these questions, the applicant will be graded and classified as follows:

- A. Employment Manager or Director of Industrial Relations.
- B. Assistant Employment Manager.
- C. Safety Engineer.
- D. Employment Interviewer.

In formulating this examination, the School has had the assistance of some thirty-five employment managers, some of national repute. A draft was drawn by a member of the faculty and submitted to each of these men for criticism. The present form, while doubtless still subject to improvement, represents the consensus of opinion of the best informed employment managers in the United States.

STANDARD TESTS IN EMPLOYMENT MANAGEMENT

I. Employment Interviewer

1. Name and discuss the relative merits of all the principal means of securing applicants for employment.
2. Make up application forms for use in securing workmen for two different industries. State why separate blanks are necessary or desirable.
3. What preliminary knowledge of the establishment which he represents should the employment interviewer have before he undertakes to interview applicants for employment?
4. Name the several definite lines of inquiry along which an employment manager may proceed for the determination of an applicant's fitness for any particular position, and show in detail how to secure and to record, in shape available for future use, the information thus secured.
5. Describe the various types of individuals met with as applicants for employment, and state how you would handle each type.
6. What are the real objectives in interviewing an applicant for employment, and how can these best be attained?
7. What is meant by "character analysis by the observational method" and what is your opinion of it? State the reasons for your opinion.

II. Assistant Employment Manager

(Answer questions under Group I and the following)

8. Explain, briefly, the origin and growth of employment management in the United States.
9. What relation does the employment manager have to the chief executive of any concern, or what should be his relation?
10. Discuss the various methods of wage rates, giving the advantages and disadvantages of each, viewed from both the employer's and employe's viewpoint.

11. What are some of the problems the employment manager faces in dealing with the foremen in the matter of hiring and firing of workers? What is the proper attitude of each toward the other, and their respective duties?

12. Outline the duties and organization of a training department for an industrial plant. State the qualifications of the director and instructors.

13. In addition to the employes served through the training department, what other classes of employes would you educate, and how would you go about their education?

14. Outline a plan for internal and external follow-up of employes to ensure satisfactory placement and permanence of employment.

15. Suppose you, as employment manager, should be called upon to formulate specifications covering the qualifications of men for various occupations in the plant. What items would you include in the specifications? From what records and investigations would you compile the data for each item? List both the items and the corresponding sources in your answer.

16. What is labor turnover?

17. Give an illustration of the different methods now in use for determining the rate of labor turnover.

III. Safety Engineer

18. What are the qualifications and duties of a safety engineer?

19. Outline the organization of safety committees in a plant of 5,000 men, another of 500 men, and show the details of the activities.

20. Develop a report blank for safety inspection for use in an industrial plant.

21. List as many items of personal equipment for the physical protection of workers as you can.

22. Write a letter to a prospective employer setting forth the value of a safety department to his company.

IV. Employment Manager or Director of Industrial Relations

(Answer questions under Groups I, II, III — except No. 22 — and the following)

23. Sketch the floor layout of an employment office for a factory employing 5,000 people (2,000 men and 3,000 women) with a monthly turnover of twenty per cent. Show what assistants you would have, and where they would be situated; also route of applicant through the office and the grounds, including in this the route of a new employe to his job, and a "reject" to the outer world.

24. Outline by diagram the organization of a well-developed industrial relation department showing the functions of the various bureaus. In this diagram link the Industrial Relations department up with the other departments of the company.

25. Cite actual instances of what you have done as an Employment Manager to accomplish:

- a. Greater production
- b. Elimination of waste
- c. Elimination of absenteeism
- d. Elimination of tardiness
- e. Prevention of accidents

and other personnel problems, the successful solution of which depends on the confidence, enthusiasm, interest, and support of the workers. In each instance show the original situation, your methods of attack, and result. How would you handle "soldiering" on the job?

26. Suppose as employment manager of a large industry you find that your labor turnover is steadily increasing for some unknown reason, what steps would you take to determine the real cause, and how would you attempt to eliminate as far as possible this condition?

27. Describe the essential characteristics of the following plans of employe representation:

- a. The Shop Committee system

- b. The Works Council system
- c. The Parliamentary system

If you were called upon to establish a plan of employee representation, what factors would govern you in the selection of a plan, and how would you go about its installation?

28. Outline a successful policy for a plant paper.
29. What use would you make of a bulletin board?
30. State the advantages of a suggestion system. Outline one.
31. What policy would you recommend in the matter of the transfer, promotion, and rating of employees? How would you handle these matters?
32. Discuss the various forms of service or welfare work; develop their respective aims and purposes, and bring out the factors on which their success or failure depends.
33. State the advantages and outline the work of a medical service department. Show how the scope of work would vary in a large plant of 10,000 people, a smaller one of 500, and one of 50.
34. Outline a plan for mutual benefit insurance among the employees of a manufacturing company.
35. State the legal knowledge required by an employment manager, and show how this knowledge is applied to the problems of employment, wage regulation, working conditions, etc.
36. If hired by a plant employing from one to two thousand men to establish a personnel department, what steps would you take? In what order would you take the steps, and to what extent would you push each step? If you have had to meet this or a similar situation in actual practice, outline what you did, why you did it, and how.
37. Assuming that you were given an appointment as employment manager, what associations would you recommend that the company affiliate with, using you as their representative?
38. What magazines would you have them take for the use of your assistants and yourself to keep you in touch with the latest word in personnel matters?

39. How would you handle a dispute between a worker and his foremen over wages or shop conditions?

40. What is the future of industrial relations work?

41. Submit a thesis of not to exceed 2,000 words on one of the following:

- a. Trade Unionism.
- b. Adjustment of Labor Controversies.

MR. J. H. FAIRCLOUGH, JR. (Jordon Marsh Company): Wasn't the consensus of opinion of the stores that the questionnaires were sent to that their planning department should come under the personnel department?

CHAIRMAN VON KERSBURG: Very few of the organizations—I cannot think of the percentage—have a regularly organized planning or research department, but it seems to be a tendency nowadays for wideawake organizations to install this department, and furthermore, to include it in the personnel department, inasmuch as the work so closely dovetails with that of the other sub-divisions of the personnel department.

MRS. R. F. ARMSTRONG (Eastman Kodak Co.): Is there not a general feeling that this connection will be even more close in the future than in the past, as the connection between unemployment and planning comes to be more fully recognized?

CHAIRMAN VON KERSBURG: Absolutely. That seems to be the logical relation.

MR. J. A. GARVEY (Dennison Mfg. Co.): In the report the Committee says: "On the whole it is no less foolish and illogical for some member of an organization who needs help to re-interview an applicant sent to him by the employment department than it would be for the manager of one of the producing departments personally to examine each piece of material ordered by the purchasing department." I do not believe that the Committee meant to say you would not bring your foreman into consultation in the case of hiring men, for to my mind this is the best thing which can possibly be done if it can be arranged.

CHAIRMAN VON KERSBURG: I agree with you, Mr. Garvey, that this part of the report is not very clear. The idea we meant to convey was that an employment department ought to be so well informed about the different positions in the organization through job analysis or otherwise, that it would not be necessary to send every employee to the head of the department. Later in this report we state that only in the case of highly skilled workers do we think it necessary to consult the foreman, and, of course, that condition will vary according to the nature of the organization. Take a manufacturing plant, where the work is highly skilled, I should think it would be most necessary that the foreman should be consulted.

MR. GARVEY: The reason that I have brought up such a point

is that in our company, for the past two years or more, we have adopted a plan, which we feel has been tremendously successful, of taking various foremen, particularly those who have not been sold thoroughly on the idea of employment work, and assigning them to the employment department for a period of two to three months.

These men are taken from their production work and transferred entirely to the employment department to assist there in interviewing applicants, transferring surplus employes from one department to another, and doing all the various things in which the personnel department comes in closest contact with the foreman.

As a result, we have in our factory departments, eight or ten foremen who, because they know our work so intimately, give us the best kind of cooperation. This is not the only good point in the plan. We are not only receiving the right kind of cooperation, but the foreman receives a tremendously good education. With his broader touch among people in the plant and those from outside, with the reading which it is required that he do, he naturally gets a broader viewpoint and comes to have the "plant feeling" rather than the "department feeling."

I do not know how many other companies are situated as we are—with five different manufacturing processes within one factory. Such a situation naturally results in some foreman thinking only about tags and nothing at all about crepe paper or boxes or the other things which our company produces. Once they get into the employment department they necessarily have to consider the company as a company and not as simply one department, and they go back to their departments and become much better foremen for it.

Our success in this work has been so great that I wanted to be sure that the Committee did not go on record as recommending that the foreman should not take part in it, since we feel that it is of the utmost importance to get the foreman right into it as far as possible.

CHAIRMAN VON KERSBURG: I trust that it is clear to everybody. This is what we meant to convey in our report but apparently did not.

MRS. R. F. ARMSTRONG: I think that it is the most capital idea I have heard with regard to selling the personnel department

to the foreman and to me worth the trip to Niagara Falls if I had gained nothing else. It seems to me the most practical way of bringing the foreman or supervisor to a broader understanding of personnel matters.

MR. E. R. COLE (Acheson Graphite Co.): I should like to add something else to that in connection with helping out the employment manager. We made two lists of the foremen. Monday, Tuesday and Wednesday mornings, a name was drawn out of this list, and the foreman whose name was drawn went into the employment manager's office, immediately he was notified that his name was drawn. He acted as Mr. Garvey said, in interviewing and in taking part in all the other things that went on in the employment manager's office. On Thursday, Friday and Saturday mornings, we drew another name and when that man's name was drawn, it was the duty of the employment manager to go into that foreman's department. It was the duty of the foreman of that department to which the employment manager was assigned that day to review the job analysis as had been previously made up, and then, when they had talked it over and saw what all the jobs were, they went out together and interviewed the particular man who was doing that particular job, and these three, the foreman and employment manager, and the man himself who was doing the job, reviewed the job.

CHAIRMAN VON KERSBURG: Does he continue to go into the department after the job analysis is compiled, or does he only do that during the period that they are working out his job analysis? I can understand the reason for different foremen going into the employment office to help choose people for the job, but I am not quite clear as to whether the employment manager continues to go into the factory.

MR. JOHN H. BOWMAN (Acheson Graphite Company): The employment manager visits the various departments each day. I do not believe it is fair to the employe and the foreman, if it is not understood that the foreman would have the final selection. He has a right to say whether he will take the man or not.

CHAIRMAN VON KERSBURG: I tried to make that clear to Mr. Garvey. We agree to that, and I think it is very clear in the report, that in the case of the skilled worker it is essential he be sent to the foreman, because it is to be assumed that no one in the employment department would pass on a skilled worker,

unless he followed out the Dennison Manufacturing Company plan of sending the applicant to the shop foreman, or having the foreman report to the office each morning to look over the skilled workers who may be applying for positions.

MR. GARVEY: I spoke about the education which the foremen receive from this work in the employment office. I want to speak more emphatically about the education which the employment department receives from the foremen. We people in the personnel department are obliged by our work to be confined more or less to the office and cannot get among the people of the plant as often as we should wish. As a result, we sometimes build up certain practices that are not calculated to make for good-will among the employes and the foremen. It has been our experience throughout that when a foreman has been assigned to work in the employment office he invariably comes in within the first week and says: "Why do you do it in just this way, why wouldn't this be better?" Invariably he has been right and we have been able to correct our error. Most of the things are small, but they are none the less important if we are going to keep goodwill.

It might be interesting also to give a short description of our decentralized personnel work. We have had a centralized employment department longer than many places. It began in 1908. Under Mr. Reilly it became a highly centralized department and before he left us he had come to the conclusion that we had come to the point where we should begin to decentralize our personnel work. We have been little by little transferring much of the responsibility for employes, new and old, which the employment department had been taking on, back to the division superintendent, and we have been training him to be his own personnel manager within his division.

In the divisions in which this plan has been worked out we have given the division superintendent a person who could assist him in the work, usually a girl or a man who had been engaged in employment work in various phases in the plant, not necessarily one who has highly specialized, but at least some one who knew the essential elements of the work. With the assistance of this person, some of our division superintendents have been able to handle practically all the personnel problems which formerly came directly to the central office, and have handled them in a

way that we probably could not have done. We are moving rather slowly in this work but our results already have made us feel that it is the only correct solution of the problem.

I have gone to many employment managers and asked how their "follow-up work" has been succeeding, and in investigating the matter fully I have never yet found a system of follow-up which was working out with any degree of success. In almost every case the personal touch was lost as soon as the new employe began his work in the factory. With a decentralized personnel system—with a person in each department placed there for the purpose of getting in touch with all the people there—this personal touch is much surer to be kept up, and I feel certain that such a system would work to advantage in any large plant provided that the true idea of the employment department's function was thoroughly appreciated throughout.

CHAIRMAN VON KERSBURG: That is a good idea for an industrial organization, but I doubt if it would work so well in a commercial organization. It would take up too much time of the department heads in the average commercial organization; in such an organization there are usually more department heads than in an industrial organization.

MR. W. N. FENNINGER (Brooklyn Edison Co.): One of the suggestions of the last speaker on "follow-up" brings to my mind one of the objections some people have had to the introduction of the employment bureau. This objection has been that even a department head or bureau head or foreman has difficulty in finding out whom to promote, and why he should be promoted, and it is practically impossible for the employment man, who is farther away from the man's actual work, to keep in touch with the matter. It is sometimes difficult for the man working with the men to know who is to be promoted, and to give any reason other than prejudice or personal like or dislike, and I am pleased to hear the comments of Mr. Garvey on that subject, because it seems to me it is one of the important things an employment department must do.

Perhaps it is not out of order to mention a certain subject here and that is the relation of the employment department to production. I do not know how many of you have met this situation—perhaps you have met it and answered it satisfactorily. I have a theoretical answer, but should like to hear facts.

A department head, we shall say, is called upon to turn out a certain specified job at a certain specified time. He endeavors to do so to the best of his ability, and he does not succeed. If the employment department has sent him help, he can at the end of that period wash his hands and say—"Oh, well, I could not do better, the employment department sent me a very poor set of men. It is not my fault, I did the best I could. I could go out into the highways and byways and bring in better men than the employment department sent me."

CHAIRMAN VON KERSBURG: That is the view that the organizations to whom we sent questionnaires took. Our report says: "It is generally agreed that the relation existing between Employment and Production is much closer than that between Employment and Accounting, Financing, Traffic Distribution, Marketing or Selling. This is particularly true in industrial plants where the quantity, quality, and cost of the product depend so directly on the caliber and suitability of employes chosen by the employment department. The relation to the other sub-divisions of an industrial, commercial, or transportation organization should be such as to furnish these departments with the most efficient help possible."

That might be an alibi for a foreman of a certain type—"The employment department have given me the most impossible kind of people. I cannot get my work done, they are not producing, and when they do produce the work is not satisfactory." You see that more depends on the employment department in relation to the production department than the others.

MR. FENNINGER: I was talking with a department head in a certain concern not long ago, and he made the statement: "The only person I can really find who is in favor of an employment department is the employment manager." Is that true? Those who have been employment managers have had to work very hard and perhaps they have oversold employment management; sometimes it is possible to sell people things they ought not to have. The department stores know that. It is a real difficulty, it seems to me, to have the managers of our concerns, if you permit the expression, become sold on the employment proposition. When it is true that the employment manager is of real assistance in selecting good men, and thereby releases some of the time of the department head or bureau head or foreman, so that he can

concentrate on production—and when we can find some way of meeting this objection, which I have just mentioned, of the foreman seeking an alibi by saying: "It is not my fault, I could not accomplish anything more with these men," it seems to me we can then establish firmly the position of the employment manager in industry.

One answer to the alibi is this—the employment department can simply send the department head two men if he wants one, or send five men if he wants two, but if the employment department does that, you may ask, why not have a public employment agency do the same thing?

CHAIRMAN VON KERSBURG: I think that we all agree that there is no necessity for an employment department unless it functions properly, and it only functions properly if it is putting the right man in the right job. No organization would continue an employment department if it were not delivering the goods, Mr. Garvey, what have you to say about that?

MR. GARVEY: To be perfectly frank, that is one of the main reasons why we had foremen come into the employment department—to kill the alibi. We found just that thing happened which the previous speaker has mentioned, that time and again a foreman would say: "Those four fellows you sent me today are terrible, we cannot do a thing with them." It is very possible that some of these complaints were justified, but on the other hand, we found that they came pretty regularly from only a certain number of the foremen. As a rule, these are the very men who are brought into the employment department to work.

It invariably happens that a man who has been recently transferred to interviewing work will make some bad choices. After he has had several foremen come to him and tell him how bad his choices are he begins to see the difficulties of the employment department. It is needless to say that when he gets back into his department he will think twice before passing judgment on a new employee. It has been our experience with one of the men, who was most critical of new employees, that his entire attitude was changed. We can be sure that he will work just as hard to bring along any man that we send him now as he would if he had had the opportunity of picking out the man himself.

Every foreman we are putting back into the factory becomes a rooster for the employment department. He is strong for it

because he has made the same mistakes that the employment department makes every day, and he knows its many difficulties. The more you consult your foreman on employment matters—and now is the time to do it when you are hiring only a few people—the more you will be able to make the producing men believe with you that the employment department is a necessity, and it will be unnecessary to sell it to them, for it will sell itself.

MR. JOSEPH P. TOOLE (The Emporium, San Francisco, Calif.): I am from a retail department store and I think that some of you might be interested in knowing what we are doing. It seems that nearly all of the stores in the Retail Research Association get the approval of the department head on the person they hire, but that approval is not final; that is, if the employment department wants to put the person in over the department head's disapproval, they may do so.

The proper thing to do is to let the department head have a say in it because we want him to feel a share in the responsibility for the person being put in his department. If he thinks that he has a share in hiring the people in his department he will feel it his duty to have these people make good. It has helped our department heads, the managers, and the buyers and we are well satisfied with the system.

CHAIRMAN VON KERSBURG: I believe that is the common practice in many department stores. The employment department should know so well what type of people are required that it will not be necessary to take up the time of the buyer or department head by referring applicants to him. Only in the case of skilled workers should this be done.

The people in the employment department ought to make, not only a thorough study of the particular jobs, but, also a mental analyses of the department head with whom they are dealing. They will make many mistakes, but eventually they will become thoroughly acquainted with the likes and dislikes of a department head, and very seldom will they refer anyone to him who fails to satisfy.

It is an excellent idea, to give certain department heads a chance to pass on an applicant at times because if they can be made to feel that they have a finger in the pie they have a much more friendly feeling toward the employment department.

It is only within recent years that an employment depart-

ment has been a part of an industrial organization. When it was first established, it met with all kinds of antagonism on the part of department heads, who had been accustomed to hire and fire when their whim so dictated, but when they woke up to the fact that they were being relieved of much responsibility and that the intelligent handling of the employment problem was a valuable aid to them, they were rooters for it, and in our store we have them so well educated, that we have little or no trouble when we once choose a person, and place that person in a department.

MR. A. F. PICKERNELL (Abraham & Straus): We follow out to a large extent the practice which Mr. Toole just spoke about as being in vogue in San Francisco. We do not like to have our employment department send any applicants for interview with the department manger, unless they are first perfectly satisfied that the employe will be acceptable to the department manager. Therefore, it is very seldom that anybody comes back to the employment office rejected. We find that that helps the employment department a great deal in the goodwill of the department managers.

In regard to the relation of the employment department with production I shall tell you one instance of a department that was getting very much behind. The manager of that department seemed to think that the only way he could get production was by hiring a great many employes, sales clerks and stock people, and that that would be the only way he could possibly get his sales ahead. His sales were going behind about 20 to 25 per cent. The expenses were too high, his selling costs were abnormal, and he was losing money. The matter was turned over to the employment office and several changes were made in the personnel. The right people were put in the department, and we cut the working force of that department in half. In two months the sales for that department were back on an even comparison with the sales of a year ago, and a year ago was an abnormally good year.

MR. W. N. FENNINGER: A commercial institution is different from the institution with which I am connected. I see the analogy, I think, quite well, but I still have it clear in my mind that there is no answer to that alibi, except by way of a method similar to that outlined by Mr. Garvey, who has been gradually

educating everybody in the company to believe that the employment department can secure the best men available.

MR. PICKERNELL: There is only one way you can do it. You must sell your employment department to the entire executive staff. When we organized our centralized employment office in Abraham & Straus, about three years ago, we found it first met with a tremendous amount of antagonism, but at the end of three years I believe that centralized employment office has been sold over and over again. We have been able to reduce our force and reduce our turnover. We find it unnecessary to send as many applicants to department managers for approval before they are hired, as we did when we first started.

Our practice in the beginning was to send practically everybody there, because we wanted to make the department heads feel that they had a part in the employing of their force, but now they are perfectly content to take the people whom we send them.

CHAIRMAN VON KERSBURG: In other words, Mr. Pickernell, you have studied the idiosyncrasies of the department heads to such an extent that you understand them, and you know so-and-so will take a certain type, and so-and-so will take another type?

MR. PICKERNELL: Yes, that is the answer.

MR. J. H. FAIRCLOUGH, JR.: The suggestions made by Mr. Pickernell about getting the approval of the department managers is an excellent idea in so far as you are physically able to carry it out. We have found that where we wanted to get the approval of the department manager, it was necessary to go about it in many different ways. The study of the situation revealed the fact that some of the department managers had many idiosyncrasies. Probably the strongest was types of people that they wanted in their department, for example, some department managers would not have a blonde in their department and others want all blondes in their departments.

We have heard a great deal about the qualifications necessary to make a successful personnel man or woman. Those of us who are particularly familiar with the department managers will agree that not every manager is a good personnel man.

In a department store, the department manager's job is to produce. As a result, he thinks more of the materials he is buying, also the market conditions and the turnover of the merchandise. With the many other details such as checking his bills in

the receiving rooms, the department manager has little time to devote to properly selecting applicants for his department. We have been able to get much better results by having the employment division select all applicants for work. We have certain definite standards and the selector is able to visualize the whole store and through specializing in this work is much better fitted to interview and select applicants and can also devote more time to it than a department manager.

We do, however, refer applicants for special positions to our department managers in certain instances such as shoes, furniture, and men's clothing departments.

Attending this meeting in my mind are two definite groups, first, those who believe that the centralized employment department is the only arrangement possible in their organization, and the other group who believes that a decentralized employment department is most practical in their organization. In our own organization a centralized employment department is absolutely necessary. We have on our payroll upwards of 3,500 people and with the various sales going on during the year it is necessary to hire extra people.

In addition, we must be able to transfer our regular force from one department to another in order to cover emergencies and to keep the selling cost low. Many times we find it necessary to hire from 700 to a thousand people in two weeks' time and you can appreciate how necessary a centralized department is in a department store business.

MISS EDNA I. GRAHAM (Westinghouse Electric & Mfg. Co.): The previous speakers have hit upon the really important points in winning over those who object to a centralized employment plan; that is to insist upon the men for whom prospective employes are to work, interviewing the applicants before the final decisions are made.

Close cooperation with the heads of the departments by personal contact usually eradicates a lot of objection. Give him a chance to tell you about his various lines of work as well as the types of people he has found either very successful or failing and he will be quite satisfied that you will do your best in selecting employes for his positions. Then if you follow-up a new employe, checking with him as to their good and bad traits he will finally rely upon your judgment almost entirely.

MR. HUGO DIEMER (La Salle Extension University): I want to add a few words about some of the idiosyncrasies of the foremen, possible evidences of shrewdness. When our labor market was in its worst condition, naturally, the foremen were in keen competition to get the help. At that time we were hiring about 100 to 125 men a day, and the needs were twice that much.

One of the shrewd things that some of the foremen used to do, was to post themselves pretty thoroughly on the specifications of their jobs, and also combine our ideas of the specifications with their own opinions, and then go outside and look at the prospects coming toward the employment office, and buttonholing one or two, coach them what to say, telling them the department that they were to say they wanted to go into, which was the department of that foreman, of course, and telling the applicant to say that he had a strong desire to enter that particular department.

Let me cite another incident. We had to distribute approximately 125 men in the first two hours in the morning and had a half dozen personnel representatives who under normal conditions were supposed to accompany these men to the proper department, and guide them to the foreman and all that, but the pressure of work was so great that three-quarters of the candidates had to be escorted by messenger boys, because our supply of scouts of personnel representatives was not sufficient.

It happened, many times, that the boy would take a man or girl who had been carefully selected for a specific job to the wrong department, and the discovery was not made until the man's time ticket was turned in, and we would try to correct it, and then the foreman would say—"No, don't take that person away, he's the best man we ever had on the job." He was on the wrong job, but the foreman was so thoroughly satisfied that we had to leave the person in the wrong job.

The present situation, I think, is one where the employment manager who has been rather lax, who has let the foreman help a great deal in the scouting, etc., and bringing in anyone he could pick up, finds himself in a position where he has plenty to select from, and he can make a great deal better selection than the foreman can among his friends or his friends' friends, who happen to be out of employment, and I think that the employment man at the present time will have to stand his own ground

pretty strongly, because he does not want the control to become decentralized. Decentralization was almost unavoidable during 1919-1920, whereas at the present time, a return to centralization in employment is by far for the best interests of every industry.

MISS KATHARINE HUEY (Antioch College): We talked at length yesterday on the subject of native ability, mental alertness and measuring it. We decided that one of the values of the mental alertness test was to indicate how readily the individual could adapt himself to any new problem at hand. I am wondering whether this whole problem, as to whether the employment manager should do all the employing in his own department, 100 per cent, or whether the foreman should properly have a part in the selection of new employes, should not be one of the opportunities for the employment manager to test his own mental alertness by the ease with which he may adapt himself to the necessities of the particular case at hand.

I am rather of the opinion that the department store gentleman who was speaking, would, during a time when he should need to take on only twenty or thirty individuals a week, be entirely in favor of consulting with the heads of his departments regarding the new employes, whereas, the same employment man, during a rush period when it is necessary to take on five or six hundred within a week or two, would be perfectly aware that not only should his superintendents not be permitted to interview prospective employes but that they would greatly prefer to have the entire selection remain in the hands of the employment department exclusively, in order to leave themselves free to absorb with least "red tape" the large increase of force within their own departments.

I think we agree that either method may be all right. It is not a hard and fast problem on one side of the fence or the other. It is simply a matter of adapting ourselves to the most feasible plan at the particular time. I think we are all on a common meeting ground and agreed in principles but may be differing a little unnecessarily over some of the details which must be adjusted in each concern to the varying conditions.

MR. TOOLE: I think that all the stores that do submit new employes to the department heads do just as you say, in the rush season they send them up. The reason being that they do not put these people on permanently. They are only temporarily

employed and must make good in the departments. If you keep them afterwards you do so on the record made by them during the time that they were temporarily employed.

CHAIRMAN VON KERSBURG: Where an employment department has been established quite some time in a department store, there is bound to be a mutual understanding between the department head and the people in the employment department. The people in the employment department, as I have said before, know what the department heads want, and very seldom do they fail to satisfy that want.

MRS. R. F. ARMSTRONG: The first point I want to speak of is on the subject of who should decide finally, the foreman or the employment department, in selecting an employee. I agree with one of the previous speakers that sometimes one method is better, sometimes the other. If, however, the final decision is with the foreman or supervisor as to the man or woman to be employed, it seems to me that the employment manager should register his objection if the foreman's choice seems to him unwise. The employment manager's protest should be forcible, though the more good-natured the better.

I can cite a case in point. We have one department where the foreman, being an unusually intelligent man himself, has a predilection for men of considerable mental development. In the face of our repeated protests, he persisted in taking on men of this type. Each time we said: "Take that man, by all means, Mr. Blank, if you want him, but don't forget that we consider him a poor risk and we will make a note on his application blank to that effect. He is over-developed for your jobs and will not remain with you, because he will soon see that there is little chance for advancement in your department. Moreover, he is the type of man we should have great difficulty in transferring, if he becomes discontented with you, for though he is a man of good general intelligence, he has no specialized training which would qualify him for any of our special jobs."

After 8 or 10 months of Mr. Blank's making his own selections of this kind we were able to demonstrate to him, by reference to the notes we had kept on our application blanks, that the high turnover in his department was due to his persistence in having selected men of this type, that the men who had left him were men whom we had protested against his taking. Today

Mr. Blank is giving heed to the estimate of the employment department.

There is one other point, the one made by the gentleman from Brooklyn. He states that the employment department is not in a position to advise on promotion. But I do not see that any other department except the employment department is in a position to advise on this matter. The employment department is, or ought to be, a clearing-house, with a knowledge of all openings, wherever occurring, and the men within the company fit to be promoted to these openings.

It is the policy of our company more and more to find men within the organization, instead of outside, to fill any vacancies that occur. How does a foreman know what opportunities there are for advancement outside his own department, or certainly outside his own plant, and if he *does* know, isn't it true that the average foreman visualizes his company in terms of his own department and is often unwilling to impair the efficiency of his own department by losing a good man, even though he knows that the man in question might find advancement elsewhere in the company and that the company would gain on the whole by this promotion more than enough to offset his own temporary departmental loss?

If a man of the proper broad-gauge type is in charge of employment, he is working constantly with the thought in mind of the efficiency of the company's whole working force. He is working to prevent men saying as often in the future as they have in the past, that there is no chance for advancement in a big corporation. He knows there *is* a chance and he is able, with all the jobs in the company laid out before him, to facilitate promotion as no man in charge of an individual department can be.

We have, in our employment department, filed with the application blank, a record of every suggestion an employe has made, a record of how many of these suggestions have been adopted and their money value. We have a record of the books he is taking out of our business library, the training courses of any kind that he is taking and the rating he has received in these courses. We have on record everything about the man that will throw any light on his ability, latent or acquired, and on his character. Then, when an opening occurs, we study these records, supplementing them by interviews and conferences with the foreman or foremen

under whom the man has worked. When we are through we feel we are in a position, if not to decide, certainly to advise, as to who is the man to be promoted to the vacancy under consideration.

CHAIRMAN VON KERSBURG: In conclusion, I should like to state that in the cases where various lines of industry have given up their employment departments, it has no doubt been due to the fact that the employment department has been tied up with too much red tape. Perhaps this department was established by that prehistoric bird, the efficiency engineer.

MR. PARK: The Committee on Resolutions has a matter which they would like to present at this time, and I shall ask Mr. Pickernell, Chairman of the Committee to report.

MR. PICKERNELL: Mr. Chairman and gentlemen: I offer the following resolution:

RESOLVED, that we, the officials and members of the National Association of Corporation Training, in annual convention assembled at Niagara Falls, New York, desire that our President, W. W. Kincaid, who is about to depart on a trip to London, convey to the officials and members of the Association for the Advancement of Education in Industry and Commerce of Great Britain our heartiest greetings and congratulations upon the success of the work of their organization in the field of Personnel Relations.

RESOLVED further, that we continue in the future as we have in the past to work in closest cooperation and sympathy with our British cousins in the effort to extend and develop more intelligent and sympathetic relations between the shareholder, the management, the employe and the public and that they may, through their efforts, assist in bringing about a better understanding and a spirit of cooperation between all human elements entering into the field of industry and commerce.

It is our sincere wish that peace, prosperity, and mutual confidence may be restored in the near future to the industry and commerce of Great Britain.

MR. PICKERNELL: The organization referred to in this resolution is one which was organized in Great Britain, patterned after the National Association of Corporation Training. It was inspired by the work of this Association among the English firms,

which felt that they should be doing something similar to what we are doing in America.

CHAIRMAN PARK: The resolution is before you. What is your pleasure?

MR. L. L. BRANTHOVER: I move that the resolution be accepted.

MR. L. A. HARVEY: What is the name of the English Association?

MR. W. E. WICKENDEN: Should not the motion include having a copy sent to the British Association?

CHAIRMAN PARK: A copy will be given to Mr. Kincaid, to hand to the British Association, which is called the Association for the Advancement of Education in Industry and Commerce of Great Britain.

(The resolution was put to a vote and adopted.)

CHAIRMAN PARK: This is not the complete report of the Committee on Resolutions, but because of Mr. Kincaid's leaving the city today, it was felt that part of the report should be acted upon at this time. Mr. Kincaid, will you please step forward.

PRESIDENT KINCAID: Ladies and gentlemen: I thank you. I shall take great pleasure in presenting this resolution to the British Association.

I had the pleasure of meeting them last year; I know that they are earnest men and women, and that they are just as intent upon working out these problems, on studying and solving them, as we are here, and the one thing that impressed me most was the attitude which our British cousins have towards this American Association. You know it is said that you cannot see your own job, and that you cannot appreciate, maybe, the real value and talent in your family, if you stay at home all the time. The same thing is true of an Association like this—we who are working in it see its faults and imperfections, as well as its advantages—we are anxious to accomplish things we have not yet accomplished, for our Association, and we sometimes think that our Association is not measuring up to the standard that it ought to, and I say, when we take that attitude, we are wrong.

Our British brethren look to us as the leaders in this line, they read our reports and they think that everything we do over here in America is just about right. I know that that is their attitude. Also in France, in Japan, and in Italy where our reports are sent

and read, the people think we have been doing a wonderful work; and we have. In order to measure up to the standard which they have set for us, gentlemen, we must do even better work than we are doing. The only thing I want to ask of this Association this coming year is that each of you, as individuals, feel an individual responsibility for the future of this Association. Let us feel an individual responsibility to enlarge the scope of the Association. We can do it in many ways. One way is for each of the present members to secure one more member. If every member here will feel the responsibility of securing an additional member, it will aid us to secure a larger financial income, which we need in order to start out on this enlarged plan.

You can also do your part towards the betterment of the Association by making suggestions. If you see things that you think might be improved in the Association, we want your suggestions. We are glad to get these suggestions. They may not be acted upon immediately, because your board and your officers must have the outlook and survey of the whole organization. We must take into the consideration the whole Association, and the development of the Association uniformly as far as that is possible.

There are many things it would have been good, doubtless to have done in the past, things, which would have rendered a larger service to the members of our Association, but sitting on your Executive Committee as I have done for the past four years, I realize in connection with many things I want to see done in this Association that it was a physical and financial impossibility to do them, organized as we are, and we cannot organize upon the other service basis until we have the finances to pay the necessary individuals and specialists to help develop that larger service.

We hope that we can get the finances, we hope that we can have the vision to broaden the scope and the service of the Association, and with your cooperation, if every person feels the individual responsibility that I believe you feel, if you will take the interest that I am satisfied you are taking, and want you to take in this work, we can double, at least, the membership of this Association, in the Class A membership, this coming year. If you will double the membership of this Association, I shall be very happy at the next annual meeting.

CHAIRMAN PARK: We will interpret your rising as an expression of the wish that Mr. Kincaid may have a pleasant journey and a successful trip to the Continent, and that you all hope to see him back in the fall, leading us in our work for a bigger and better Association.

The meeting then adjourned.

LABOR TURNOVER

THURSDAY MORNING

MR. L. L. PARK, Presiding

MR. PARK: Mr. Hugo Diemer, Chairman of the Committee on Labor Turnover will present his report.

CHAIRMAN DIEMER: We have a tabulation of the causes of labor turnover, which we have grouped into three causes, Controllable, Partly Controllable and Non-Controllable. Under Controllable Causes we have arranged all of those causes in the order of the greatest weight given to them. I find that pay seems to be the cause which was given the greatest weight. Then follow in order "Unsatisfactory shop conditions," "irregular work, due to poor planning and scheduling," "misplacement," "lack of opportunity," "insufficient supervision," "too much day work," "hours either too long or too short."

Under the heading of "Partly Controllable Causes" are given: "Insubordination and trouble-making," "incompetency," "poor transportation facilities," "poor housing conditions," "irregular work due to lack of materials."

Under the Non-Controllable Causes are given: "A restlessness," and other causes including "Personal," "Domestic," "Death" and "To be Married."

Then we have followed with returns of the questionnaire regarding remedial steps recommended to reduce labor turnover. It is rather singular that although the wage question was voted as a cause having only a weight of 18 per cent, about 51 per cent were willing to assign wages and wage systems a place in remedial work. Educational and Training Activities were voted 9.7 per cent of all points as effective remedies. Service Features as Incentives, 14.1 per cent, Employment Efficiency as a Factor, 4.9 per cent, Management Policies, 18.1 per cent.

After this discussion of the causes and remedies, follows the question on the "Basis for Figuring Turnover."

We append a list of references to labor turnover. This is divided into a list of books and magazine articles which have been brought up to date, and includes none given in the previous reference list of the 1920 report of the committee, so we have an up-to-date reference list to the literature on the subject of labor turnover.

COMMITTEE ON LABOR TURNOVER

MR. HUGO DIEMER, *Chairman* MR. ROBB CARSON

LA SALLE EXTENSION UNIVERSITY
Chicago, Illinois

NEW YORK TELEPHONE CO.
15 Dey St., New York City

MR. J. C. VANDER PYL

AMERICAN HARD RUBBER CO.
College Point, N. Y.

MR. E. R. BARRETT

GENERAL ELECTRIC CO.
Equitable Building, New York City

MR. C. A. GLYER

MARSHALL-WELLS CO.
Duluth, Minn.

MR. W. M. SCHMITT

THE SCHWARZENBACK HUBER CO.
West Hoboken, N. J.

MR. F. O. BERG

BRIDGEPORT BRASS CO.
Bridgeport, Conn.

MR. A. C. JEWETT

WINCHESTER REPEATING ARMS CO.
New Haven, Conn.

REPORT OF COMMITTEE ON LABOR TURNOVER

Two conferences were held in the fall of 1919 for the purpose of determining the nature and scope of the work to be done by the committee on labor turnover, for the year 1920 and 1921.

The first was a meeting of the Chairmen of all committees; the second was a meeting of the committee itself, held in the office of Mr. E. R. Barrett, of the General Electric Company.

As a result of these conferences the following work was decided on for the committee for the current year.

1. To investigate the general situation as to labor turnover during the year, July, 1919, to July, 1920, as reported by individual industries.
2. To determine by questionnaire what the most important causes were for the labor turnover during this period and what weights were assigned to these causes, by various costs based on their clearance analyses.
3. To determine what have been the most effective steps or activities with the weights assigned them by member companies where these remedial activities have been actually practiced.
4. To investigate what basis of figuring turnover is being actually employed, and why.
5. To see if there is any marked unanimity of opinion as to the definition of labor turnover.
6. To present typical turnover figures for the period assigned.

In view of the generally expressed opinion that the labor turnover during the year, July, 1919, to July, 1920, has been abnormally high in practically all parts of the country, it is significant to note that in response to our questionnaire 28 corporations reported that they had found an abnormally large turnover during this period; 13 reported that they had not had an abnormally large turnover.

Chief Causes for Labor Turnover

As reported by 39 firms answering this portion of the questionnaire based on the analysis of their turnover:

GROUP I.—CONTROLLABLE CAUSES

	No. giving this as a cause	Points assigned this cause	% of total points assigned this cause
Pay "too high"	4	34	1.0
"too high" }	3	41	1.2
"too low" }			
"too low"	22	544	15.9
Unsatisfactory shop conditions	17	215	6.2
Irregular work due to poor planning and scheduling	11	165	4.8
Misplacement	16	121	3.6
Lack of opportunity	15	115	3.4
Insufficient supervision	10	58	1.7
Too much day work	5	44	1.3
Hours "too long"	6	40	1.3
Hours "too short"	2	15	.4
Total controllable			40.7

GROUP II.—PARTLY CONTROLLABLE CAUSES

	No. giving this as a cause	Points assigned this cause	% of total points assigned this cause
Insubordination and trouble making	27	338	9.9
Incompetency	30	252	7.4
Poor transportation facilities	18	135	3.9
Poor housing conditions	15	110	3.2
Irregular work due to lack of materials	12	61	1.8
Total partly controllable			26.2

GROUP III.—NON-CONTROLLABLE CAUSES

	No. giving this as a cause	Points assigned this cause	% of total points assigned this cause
Restlessness	29	795	23.2
Other causes including Personal—Domestic— Death—"To be Married"	17	346	9.9
Total non-controllable			33.1

Comments of Those Answering the Questionnaire

Under *Wages too High* the following comments were made:

"This reason does not mean that men were getting too high wages, but were kept moving from place to place by rate inducements offered by competing firms."

One of three members who bracketed *Wages too High* with *Wages too Low* says "If this is looked at from the standpoint of what causes the exit from our plant, then competitors' high pay is a factor."

Under *Wages too Low*:

Common labor only. "They claim so, but it is due more to restlessness." This does not mean that our rates are lower than they should be, but it does mean that many men leave our employ because they were not able to earn what they thought they should.

"In most cases they were inefficient in work and were not underpaid."

"There are two entirely independent factors to be considered in connection with this question—one, general conditions of the industry affecting the employment of labor,—and two, specific conditions within a particular company."

Under *Shop Conditions*:

"Heat," says a hosiery mill. "Dye house and wash house," says a silk mill.

"A large number of those leaving here are from the departments where conditions are not as favorable as they are in the more stable departments," says a locomotive works.

Under *Lack of Opportunity*:

The fact that fifteen concerns gave this as a cause shows that we still need to watch our blind alley jobs, and make it possible for the worker to advance out of them.

Under Misplacement

"Due to shortage of help, many men were placed on jobs where they did not fit." "Due to shortage of labor."

Under Restlessness

"Caused by the many inducements in existence at that time."

"Too many jobs per man."

"Due to shortage of the labor market."

Remedial Steps Recommended to Reduce Labor Turnover

The returns to the questionnaire can be naturally classified as coming under the following groups:

WAGES AND OTHER FINANCIAL INCENTIVES

Method	No. firms recommending	Points assigned	% of total points
A wage increment over pre-war basis equal to increased costs of living.....	26	888	28.7
A wage increment greater than the increased cost of living	8	210	6.8
Wage system affording efficiency rewards (unclassified)	5	55	1.7
Bonus system	13	166	5.4
Piece rates as financial incentive.....	5	86	2.8
Premium system	1	1	
Service bonus at end of six months	5	50	1.7
At end of one year	3	15	.5
At end of two years	2	10	.3
At end of five years	1	5	.1
Stock award as service bonus	2	30	1.0
Group insurance as gift	5	37	1.2
As service award	5	34	1.1
Total financial incentives			51.3

Educational and Training Activities

Method	No. firms recommending	Points assigned	% of total points
Educational activities (unclassified) _____	8	73	2.4
Vestibule training for shop or office _____	4	44	1.4
Apprentice training _____	4	19	.6
Citizenship or Americanization _____	7	34	1.1
Foremen's courses _____	6 ¹	61	2.0
House organ _____	14	68	2.2
Total educational incentives _____			9.7

Service Features as Incentives

Method	No. firms recommending	Points assigned	% of total points
Housing _____	12	94	3.0
Transportation _____	8	56	1.8
Cafeteria _____	19	113	3.7
Recreation _____	17	69	2.2
Medical, dental and safety _____	18	104	3.4
Total service _____			14.1

Employment Efficiency as a Factor

Method	No. firms recommending	Points assigned	% of total points
Better contact with market (unclassified) _____	4	40	1.3
Employer's recommendations _____	11	52	1.7
Advertising _____	4	38	1.2
Closer touch with schools _____	2	11	.4
Foremen hunting help _____	4	10	.3
Canvassing by employees _____	1	2	
Total employment _____			4.9

Management Policies

Method	No. firms recommending	Points assigned	% of total points
Replacement of "ruthless driver" type of shop executive by square deal type, who leads thru confidence instead of driving by fear _____	15	170	8.5
Creating confidence (unclassified) _____	11	123	4.0
Stock purchase by employees _____	11	58	1.8
Shop committee _____	8	50	1.7
Substituting democracy for autocracy (unclassified) _____	5	45	1.4
By better production control and scheduling _____	4	37	1.2
Management encouraging duplicity by foremen _____	6	28	.9
Avoiding espionage _____	5	21	.7
Directors discouraging duplicity by management _____	3	19	.6
By employers buying group insurance _____	2	10	.3
Total management policies group _____			18.1

Under other methods there were 58 scattering points as follows:

- Correcting misplacement through transfers.
- Promotion from rank and file.
- Assisting employees having extra obligations.
- Advising employees in home difficulties.
- Investigation of absentees.
- Providing continuous employment.

The above were given 58 points or 1.9 per cent.

BASIS FOR FIGURING TURNOVER

In reply to the question as to the basis for figuring turnover actually employed by those answering the questionnaire, there were 39 replies received. Of these 39 there were 27 who used the fraction obtained by dividing the exits or separations or number leaving, by the average enrollment, average number on payroll, or average force irrespective of whether the force is increasing or decreasing.

Twelve of the companies answering the questionnaire actually use a different fraction with an increasing or stationary force from the basis employed with a decreasing force. Namely, as

follows: Determine number of employes hired, also number left or discharged. Divide the lower figure of above two by the average number of employes.

It will be noted that only 12 out of the 39 companies answering the questionnaire actually use the replacement theory as a basis for figuring their turnover.

There has been a great deal of argumentation on either side as to the use of replacements or separations to measure turnover. The arguments on either side have been well stated in previous reports of the committee.

The above figures represent the facts as to the actual basis which is being used.

It would seem desirable that the same basis be employed by all, or if there is to be a permanent difference of opinion, it would be well worth while to collect figures in such a way that turnover could be expressed in both ways by any one company.

Of the 12 companies employing the replacement basis, there were none who made any comments on the basis.

Of the 27 using the separation methods there were six answers in which comments were made.

These answers were as follows:

Two reported: "We do not approve any change based on increasing or decreasing force."

"Disregarding whether force is increasing or decreasing in any good business, a lay-off of one-half the force even for six months means replacement later on. Every time you let a trained man go, you will have to replace him sooner or later, or else your business is shrinking to zero. Turnover percentage means very little anyway unless analyzed. We would use cost of turnover per dollar pay roll if it wasn't so hard to get at."

"Decrease in the force of a specialized business must mean that a number of employes carrying valuable experience which has cost the company time and labor are leaving. When the time comes to build that force again, this time and money will have to be spent again."

"We recommend that employment men forget the ways of figuring the turnover fraction and study the positive term, labor stability, and endeavor to increase efficient stability in their sev-

eral plants. Turnover is quite to the credit of managements if thereby stability is the result."

"There is no replacement where the force is decreased intentionally. The theory that there can be terminations without turnover is illogical. If replacement is used as the numerator the formula is unbalanced because the replacement is also used in the denominator."

If the percentage of employers rejecting the replacement theory, namely, 27 out of 39, or approximately 67%, is representative of industry in general, it would seem to indicate that there is an inclination to reject the replacement theory.

Typical Turnover Figures as Reported

A Public Service Corporation—Middle West	
General Turnover	117.8%
A Public Service Corporation in the East	
Technical Force	85.8
Operating	85.2
Distribution	116.7
Construction	202.8
Monthly salaries	5.1
An Eastern Hat Manufacturing Co.	
General	33.5
An Eastern Chemical Manufacturing Co.	
Unskilled labor	48
A Light Machine Manufacturing Co. in Pennsylvania	
.....	140
An Eastern Bank	
.....	45
An Eastern Paper Works	
.....	56
An Eastern Silk Mill	
.....	57
An Eastern Cabinet Works	
.....	107
A Light Machine Manufacturing Co.—Middle West	
.....	97.3
An Eastern Corset Factory	
.....	90.5
An Eastern Department Store	
.....	82.8
An Eastern Life Insurance Co.	
.....	53.2
A Light Metal Factory in Detroit	
Unskilled labor	228
Semi-skilled labor	90
Office and Clerical Workers	159
A Middle West Mail Order House	
.....	195.3
A Middle West Metal Works	
.....	196.8
An Eastern Oil Refinery	
.....	141.8

An Eastern Public Service Corporation	
Unskilled labor	79
Semi-skilled	12
Skilled	7
Clerical	2
A Middle West Packing Co.	187.7
An Eastern Hardware Factory	81.8
An Eastern Life Insurance Co.	43.5
An Eastern Optical and Camera Manufacturing Co.	53.3
An Eastern Public Service Corporation	125
A Middle West Steel Company	182.9

In this connection the report of the industrial bureau of the Merchants Association of New York City is of interest. This Bureau received reports from 42 manufacturing companies representing 15 different industries and employing a total average force of 41,275 workers, skilled and semi-skilled. In about two-thirds of the plants the turnover lay between 100 and 250 per cent. The minimum was 16 $\frac{2}{3}$ per cent; the maximum, 338 per cent; the average, about 125 per cent.

Comparing the results of our own questionnaire with the figures of the Merchants Association of New York, we find that the minimum represented for the average of all classes is 33.5 per cent; the maximum was 196.8 per cent; and the average, about 92 per cent. The median, or approximate figure, was about 115 per cent.

It is quite apparent from the actual turnover figures given, that the percentage varies widely in the same industry, and in the same section of the country, showing unquestionably that turnover percentage is a figure controllable locally in a given undertaking by the personnel management and general management working harmoniously and along definitely planned and published policies.

A LIST OF REFERENCES ON LABOR TURNOVER

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MR. GARVEY: There is one cause for labor turnover which I do not see mentioned in this list but which I think may figure very strongly in case we have another labor shortage. The treatment which we are now giving the applicants who come to our offices looking for work may play a decided part later on in our turnover figures. I feel very certain that at the present time many places are by no means as particular about giving the applicants for a job today as courteous a reception as they gave them eighteen months ago. In those days most men who came in looking for jobs were considered as guests of the firm and given every kind of courtesy under the sun to make them feel that we had a good place in which to work. I am afraid that some firms, even those which have fully organized employment departments, are not following out a like procedure today, and I think if some of the employment managers would check up their assistants they would find practices going on in their employment departments for which they would not care to be sponsors.

If I may be pardoned a personal experience, I might say that I was sent by Mr. Dennison the first of this year to go through various cities in Massachusetts and Connecticut, looking for a job as a common laborer, with a view of checking up the market demand for labor, and even more to see what the employers were doing to keep labor's goodwill. In my trip I went to some twelve or thirteen different cities and applied for work at some thirty or more plants. In all of these places I was unable to secure any sort of a job, even as a common laborer, and in almost no case did I even have my name registered for future opportunities. This, however, was not the discouraging part of the trip. What I regretted most was the fact that in a large proportion of the offices the treatment which I was accorded could scarcely be considered decent. In some places I was unable to get an interview from anyone of higher rank than an office boy. In other places I cooled my heels for hours without having the chance to talk to anyone.

In one particular place, where I sat for two hours without being spoken to, the employment manager, whom I knew by sight wandered back and forth through the office several times seemingly with little to do and yet he did not condescend to even grant me a "standup interview." Although I was simply acting

a part, my blood almost boiled at such treatment. It strikes me that those concerns in which such things are happening now will have difficulty in filling their labor needs when business becomes normal once more. I believe firmly that the best kind of men—the kind we all want to be in our plants—will remember such treatment as that and when the labor shortage comes again, as it inevitably will, and they are advertising in the papers for help, one of those fellows will tell his friends—"That is a blank of a place, don't go down there, they don't even give you decent treatment."

I am bringing up this point so as to be certain that you are not thoughtlessly allowing such conditions as these to grow up in your own plant. It is strictly up to everyone of us employment men to take the big, broad view of keeping the goodwill of labor, and to make them feel that we are playing the game squarely with them now as never before. We should be careful in our treatment of the applicant, for the unemployed man is much more easily swayed by bolshevistic propaganda than the man who has his forty-eight hours' work to tie to, and if we, in our treatment of the jobless man, only emphasize these feelings we shall have failed utterly in our duty, not only toward our own factory but to society.

MR. JOHN O. STEENDAHL (S. F. Bowser & Co.): I am glad that Mr. Garvey brought out that point. I represent a plant in the middle west in a town of about 90,000 which has also been hit by the depression. Some time ago one of the officials who was interested in reducing costs suggested that we close up our employment offices, inasmuch as we would probably hire very few individuals, and thus save the salaries of a number of people.

I opposed the idea realizing that the employment department would realize its opportunity for real service during this time of depression.

We have kept our employment offices open and our interviewers have been instructed to meet men and women on the same basis as they did eighteen months ago. Last month we interviewed nearly a thousand men and employed but twenty. To be sure we have reduced the number of hours for interviewing applicants—they are now from eight to ten in the morning and from two to four in the afternoon. Last January was our lowest employment period.

During the past three months business has been good. Many of the men we hired were interviewed during the first part of the depression. I feel sure the treatment we gave several thousand men who come to us seeking employment has been to our advantage. We have been able to pick up some very good men. We have the names and addresses of all men who seemed to have experience we can use. Many voluntary expressions from applicants relative to the treatment received in our employment office led us to believe that we have made no mistake.

I think every employment man here might well recognize the fact that it does not take a long time for your employment policy to become well known. During periods of depression men come to you in fear and trembling. They remember the treatment they receive. If you are indifferent and treat them with less consideration than you did eighteen months ago, you may expect a reaction in the future which will not be in your favor.

We have adopted the same policy and plan outlined by the gentleman from the Dennison Company. We know it pays.

CHAIRMAN DIEMER: Talking about the reception that is being accorded to people visiting employment offices, I had an experience along this line a little over a month ago. I had received a letter from a man who is a physician in a small town, and in his letter he told me that one of the largest organizations in the country had acquired a group of industrial buildings in a nearby town, and that he had been appointed to take charge of the employment and personnel work of this big industry. He had heard that I knew something about that subject, and asked me if I would not give him a little help.

It happened some weeks later that I passed through this city where buildings had been recently acquired and I thought I would drop in and see the doctor.

Out on the sidewalk there was a guard most beautifully arrayed. I was permitted with great condescension to enter the sanctum and go to the employment office. In the employment office there were many vacant rooms and two girls having a fairly good time. I asked for the doctor. They didn't think he was in. I asked if they knew where he was, and they said, "Oh, yes, he is in a conference with Mr. So.-and-So." I then asked if I could see him, and I was told that I could not. I then inquired if I could telephone to him and tell him I was in the

office, and they said, "No, we can't do that; he will be busy all the afternoon."

In view of the fact that the industry is expected to build up a big force in the future, and seeing that they were spending many millions of dollars to acquire the plant, I asked—"Are you taking applications for employment?" The answer was—"No, we are not taking any applications," and out I went.

I do not know whether that is a typical situation or not. I did not leave my card, and thought I would move on as long as I had done my duty.

A DELEGATE: You may be interested to know that during the last eighteen months we have covered a situation similar to that by the addition to our employing staff of a young woman, who greets all the applicants in the outer office. Her business is primarily to make these people feel that they have come into a friendly office, each being received as a guest of the firm. She tries then to ascertain in what type of employment they are interested, and then she directs them to the interviewer who is handling that particular job.

We also have supplemented her work by installing throughout our organizations corps of department guides. These department guides are supposed to take in charge the new employe when she reaches her department for the first few days, and to supervise the treatment she receives, see that she meets the people at the head of the department, etc. These department guides are directly responsible to this young woman in the employment section, and so in that way she is able to follow up very closely the applicants.

MISS EDNA I. GRAHAM (Westinghouse Electric & Mfg. Co.): It certainly is necessary to extend every courtesy possible to applicants in times when work is scarce. We have made a special effort to have a personal interview with each girl applying. By keeping in touch with our various sources of supply we are able to refer these girls to them, and in many instances, they secure positions.

Those of our own girls who are temporarily laid off are referred to these same sources of supply and usually are placed upon very good positions.

MR. GILL: There is one phase of this question that I have never heard discussed; that is the "good side" of labor turnover.

CHAIRMAN DIEMER: In other words, there is virtue in firing. Now, gentlemen, when should a man be fired? Are we firing them enough?

MR. GILL: I have not done much thinking about this matter, Mrs. Armstrong spoke of suggestions from workmen. I warrant that many suggestions are made by workmen who have brought their ideas from other plants.

One of the big objections to labor turnover is the expense in employing and particularly the expense of training men. I have no figures to present, but I am sure an analysis of the situation will show that many of the individuals who change least are the hardest to train, and many of those who change oftenest are the brightest fellows and the ones who can pick up a new job in a short time.

CHAIRMAN DIEMER: In colleges we have felt the danger of "inbreeding," but most industries, as a rule, like to make the claim that almost all the executives "have been promoted from the ranks." On the other hand, there is a good deal of virtue in bringing in a certain percentage of new blood from the outside. In fact, in many cases, instead of merely hiring three or four C. P. A.'s or industrial engineers and retaining the entire old executive staff, it might be better to bring in also some new permanent executive help, thereby bringing in some permanent talent from the outside.

MR. H. E. VON KERSBURG (R. H. Macy & Co., Inc.): The quickest and cleverest employes are the ones who leave after a short stay with an organization. That should not be. If the personnel department is functioning properly, the quickest and cleverest employes should be retained. There is evidently a lack of promotional opportunities when your best employes are allowed to get away from you.

MR. J. P. TOOLE: I find that in stores having highly developed training departments that they have very low turnovers, perhaps, these stores have been able to keep the bright people of whom Mr. Gill spoke.

MR. A. F. PICKERNELL (Abraham & Straus): In the matter of suggestions, I do not see why employes should not bring along with them suggestions if they have discovered them in other plants. I do not think we would hesitate to adopt them. I think that would apply to the new employes.

In the matter of decreasing our own turnover, we developed a system of follow-up in the case of our employes. As soon as an employe is engaged, we start a personnel record card, and everything that employe does is recorded on the card—lateness, and absences are recorded, suggestions of all kinds, all errors that the employe has made, department ratings, the personal history of the employe, the schooling record, etc. If we find that an employe does not live up to our standards, we put the skids under her, she cannot stay with us.

Possibly large turnover may be due to poor employment or poor placement. We found, unfortunately, many cases of employes who have been with us for a number of years who were productive to a certain point, and then they fell back. We had to find either other positions for that employe or release them from our service.

MR. GILL: In looking over the figures in the report, I notice that the most important of the partly controllable causes of separation is insubordination. In seeking information, I put this question to the turnover committee, "What connection is there between this cause of separation, and the fact, or feeling on the part of the supervisors, let us say foremen, that they do not have complete jurisdiction over the employes?"

This goes back to our discussion of this morning on employment, when we discussed at some length the question of foremen's statements to the management that the former could not run the job, because they did not have the right kind of men. What was meant was that they did not have the control over the men, because the men did not feel fully responsible to the foreman.

CHAIRMAN DIFMER: Is it not the case in the majority of companies, having centralized employment departments, that a foreman may still be as petulant as ever about discharging from his own department, and no questions asked? If it is a case of a transfer, it does not show the employe as a dismissal and would not show in the labor turnover.

MR. GILL: During times of labor stress, labor stress in the sense of insufficiency of labor, there may be a great many separations for that cause, but in times like the present, when the worker feels that it is up to him to work for the foreman, with all his strength, he is going to hold on to his job, by following

out the discipline of the department. Conditions have changed materially in the last eight months.

It seems to me that the figures in the report ought to be divided into two groups, each group perhaps totalling 100 per cent. We cannot do very much with the non-controllable causes. The things we are interested in are the controllable or partly controllable causes. On that basis the item "Insubordination" would rank higher than it does, in other words, it would stand more like 16 or 20 per cent.

CHAIRMAN DIEMER: About 17 per cent.

MR. GILL: We are getting back into a period of discipline, and discipline goes with authority.

CHAIRMAN DIEMER: I should like to ask the lady from the Westinghouse Company, which lists, as promotion ratings, the number of suggestions, the reading of books, and the educational courses taken—all of those records presupposes a sort of awakened individual—What did you do to awaken the individuals to their opportunities in that connection?

MISS EDNA I. GRAHAM: Some one from the Eastman Kodak Company referred to that subject rather than myself. However, our classification scheme provides for promotion. Messenger girls are promoted to filing positions. Those occupying filing jobs are transferred to higher class transcribing positions, and the latter are stepping stones to general clerical positions of a still higher grade.

The girl who attends any night school and qualifies for typing or stenographic work is promoted to a position upon which she can use her newly acquired knowledge.

It has always seemed to me that the actual carrying out of this policy created enough desire in the hearts of the girls to qualify for promotion without undue advertisement in some other way.

CHAIRMAN DIEMER: The lowest labor turnover I ever saw was in a hat company in which the turnover figure was less than 34 per cent, 33.5 per cent. It has one of the most efficient personnel officers I ever have known, and a large percentage of employes, I think one out of every four, is a stockholder in the company.

MR. JOHN D. GILL: In 1916 the Committee on Unskilled

Labor had a meeting in Detroit, and at that time the Committee visited the plant of a large manufacturer.

Committee was told that the turnover of that plant had been reduced from a figure in the neighborhood of 100 per cent to about 14 per cent. At that time this company was paying the five-dollar minimum wage, a rate looked on generally as an influence demoralizing industry. I mention this for two reasons, first, as a case of low turnover, and second, illustrating the paramount reason for that low turnover. I do not think it was so much a question as to the five-dollar wage, as it was that the minimum wage was so much in excess of what other people were paying.

MR. H. E. VON KERSBURG. I think that a high labor turnover can be healthy, especially at the present time. Until last November, no matter what line of endeavor we were in, we were obliged to hire anybody we could get, anybody who applied was welcomed with open arms. We had to keep the organization filled. We really could not do much choosing under the labor conditions as they then existed, and naturally now a lot of the undesirables that we were obliged to take in during the emergency period are being released, and now we only take on people who are really desirable. Some people may not figure this in their labor turnover, but we do.

MR. PICKERNELL: I should like to get an idea, if possible, just how different people figure labor turnover. I was visiting a plant not long ago, and found to my surprise that the employees did not figure in the labor turnover until they had been with the plant for two weeks. Therefore, they had a very flattering figure of labor turnover. In Abraham & Straus, if an applicant possessed an application blank signed by the interviewer, and reached our time desk, she is considered as an employee. If she then walks out, she has got to go on a labor turnover report, on account of the fact that she has been registered as an employee, and automatically her name goes on the payroll, and has to be taken off, and is counted as a separation. That is a hard thing to do, but we would rather have the full picture than fool ourselves in the matter. I believe under the plan of holding the names on a supplemental payroll for two weeks, you are fooling yourselves. We have many separations in the course of the first two weeks, and if we should eliminate these our figure of turn-

over. would show up much better than it does. I would like to get an idea of what the general practice is.

MR. FAIRCLOUGH: That particular thought may apply to us in a general way. We do not figure temporary help in our labor turnover. With us temporary help is hired for a definite sale and during the seasons of Easter and Christmas. Applicants hired for temporary work are given a special time card and told they are entitled to the privileges of our regular fellow workers. However, they are only hired by the day for a certain length of time. An explanation may clarify the thought in your mind as to the reason we do not figure temporary help in the labor turnover.

We divide our turnover into two groups,—preventable, and non-preventable. If we were to take into consideration the number of temporary workers leaving for a non-preventable reason you can very readily realize how this would diminish the percentage of our preventable turnover. This would be covering up the bad spots in the organization that we are trying to get at and eliminate. By simply figuring our permanent people in our turnover we can get a true result.

If a person is transferred from a temporary to a permanent position they are given a regular time card and then figured in our regular turnover.

MR. PICKERNELL: I was referring to temporary employees. We hire many during the year separately. I am not speaking about the regular employees who are ostensibly employed for permanent positions.

MR. F. L. RIGGS (Gutta Percha & Rubber, Limited): We include in our labor turnover figures, all those who enter our employ, even though it may be for an hour. It is merely a matter of method, and low turnover percentages do not indicate very much without an analysis of the causes of leaving.

When we first adopted our turnover form, we said that the average number for the month was the total at the beginning of the month, plus the total at the end of the month, divided by two, but we found that was erroneous. Take two illustrations which we worked out;—say that a foreman who had one hundred men throughout the month, let fifty men go on the last day of the month. The percentage of turnover would, in the ordinary way, be arrived at by taking one hundred at the beginning of the month

and fifty at the end of the month, or an average of seventy-five for the month, with fifty dismissals, or 66 per cent turnover. As a matter of fact, turnover should be figured as 88 per cent for that particular month. In contrast with that, if a foreman let fifty men go on the second day of the month his turnover would be 51 per cent, so in order to overcome that difficulty, we devised what we call a daily-working force-sheet which shows the number of people actually in the department on the first day of the month, the second day of the month, and so on throughout the month. The columns are totalled and divided by the number of working days during the month, which gives the true average.

We have asked many people their method of arriving at the average number of people on the payroll for a given period, and have yet to get a satisfactory explanation. If there is anyone here who has worked it out in that way, we should be interested to hear from them.

CHAIRMAN DIEMER: We use the daily report, total number of days divided by the number of days in the month.

MR. FAIRCLOUGH: Has the Association ever considered the standardization of labor turnover records that the discussion this morning has shown us that amongst our members there are many forms of labor turnover records and methods of figuring turnover? I do not believe we are getting ahead in discussing these statistics because the conditions and methods of figuring turnover differ so greatly that we cannot make a proper comparison of these figures. If the matter of standardization of these records has not been considered I would like to make a recommendation that the next committee to touch on labor turnover consider working out a standard form of figuring turnover so that we have comparable figures.

CHAIRMAN DIEMER: I think it is a very good idea that we should have such a standard form, not necessarily to be adopted by everybody, but to provide for listing statistics in such a way as would enable us to get uniform results.

MR. FAIRCLOUGH: I meant to add in that recommendation that the committee also consider the standardization of leaving reasons.

MR. RIGGS: Can we do any better than to accept the method recommended by the U. S. Department of Labor, which I understand is very generally adopted by firms in the United States.

The method is to ascertain the average number of workers for a given period; the number of quits for the same period and divide the number of quits by the average number of workers. If the turnover is figured for one month, the percentage is multiplied by twelve so as to give a yearly figure for purposes of comparison.

CHAIRMAN DIEMER: A general statement of that sort accompanied by general forms to be filed at the discretion of statisticians would not give us the benefit of uniformity of comparison, as would be the case if this Committee, in its next year's report would present and utilize a series of effective forms that might then be regularly used by those who wish to do so.

JOHN D. GILL (The Atlantic Refining Co.): This Association is primarily engaged in solving the problem of the elimination of waste of human energy in industry. There is a waste going on at the present time which is enormous.

A study was made recently that showed that in some lines of the building industry highly skilled workmen were actually engaged less than 200 days a year. They were paid for less than 200 days out of the year; and if we stop for a moment to consider the great numbers of bricklayers, masons, boiler repair men, carpenters and others engaged in building construction, we come to an appreciation of the amount of waste from this cause.

Are we willing to have a loss in idle plants and equipment, during certain months of the year, in order to accommodate men during winter months; of course, the loss of idle plant must be balanced against the loss of human energy.

(The meeting then adjourned.)

EXECUTIVE TRAINING

THURSDAY AFTERNOON—JUNE 9, 1921

• MR. E. R. COLE, Presiding

MR. COLE: Managing Director Henderschott will present the Report on Executive Training.

MANAGING DIRECTOR HENDERSCHOTT: Dr. Gowin, the Chairman of this Committee, went to Berlin, shortly after the Committee was appointed. He has been chairman of the Committee for two or three years and he wrote this report while abroad. It is a good report. It is instructive. It caused us a little bit of uneasiness in the early stages, because there was, I think, a little misapprehension as to the function of the Committee, and the executives of some of the companies felt that the employees were going to undertake to train them. The report this year deals largely with the Conference Plan,—How it can be utilized, the good features of it, and the bad features of it.

COMMITTEE ON EXECUTIVE TRAINING

DR. E. B. GOWIN, *Chairman*
TEMPORARY ADDRESS
Berlin, Germany

DR. HUGO DIEMER
LA SALLE EXTENSION UNIVERSITY
Chicago, Ill.

DR. SAMUEL MACCLINTOCK
M'GRAW BOOK COMPANY
239 West 39th Street.
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MR. JOHN D. GILL
THE ATLANTIC REFINING COMPANY
Philadelphia, Pa.

MR. FRANK E. WEAKLY
7004 Clyde Avenue
Chicago, Ill.

MR. FRED R. JENKINS
COMMONWEALTH EDISON COMPANY
Chicago, Ill.

MISS RUTH DREDGE
KAUFMANN'S DEPARTMENT STORE
Pittsburgh, Pa.

MR. GUY SCUDDER
LINCOLN NATIONAL LIFE INSUR-
ANCE COMPANY
Fort Wayne, Ind.

REPORT OF THE COMMITTEE ON EXECUTIVE TRAINING

The executives in our various member companies have been holding conferences from time to time, over work problems. The comments made to our committee by two of these executives, each connected with a corporation which is the largest and most successful of its kind in the world, indicate the possibilities which this plan possesses.

"We are firm believers in the conference idea. I can safely say that not a single important move is made without calling into conference the heads of every department or division who may be able to help in reaching a decision. Our president is in conference every day and sometimes nearly all day with representatives of one or more of our companies. Sometimes conferences may be with the department or division heads of some one section of our work. Cabinet meetings are held every week, and the foremen of the printing plant are called into conference frequently. In fact, we are so firmly wedded to the conference idea that we cannot understand how any concern can be successful without taking Advantage of all the intelligence in its organization."

"The management of our company is based upon the conference idea. We have a great many committees which meet regularly, some of them as frequently as daily, and others once or twice weekly. Our board of directors meets every day at 11 o'clock. In general, these conferences are attended by heads of departments and some of the other assistants, so that there are always some younger men in the groups, somewhat for the purpose of being trained, as well as contributing to the discussion."

The thought expressed in the last sentence, the use of conferences in the training of executives, concerns us more particularly in this report. We are especially interested, moreover, to deal with this topic because the expression "training of executives" is apt to imply a return to school and school routine, which in practice we know is not done; executives do not receive their training in that way. Conferences, as they will be treated here, are over work problems, with the training feature, while of

undoubted value, subordinate to the main purpose of expediting business.

What conferences are held? How conducted? What benefits are derived? What drawbacks encountered? These questions have been taken up with our member companies, and numerous replies at first hand will be cited in the report which follows:

What Conferences Are Held

When the organization is small, the managers see each other easily and informally. But with large companies this simple way of handling matters becomes impossible, and there arises either the military type of organization in which orders are passed down the line with the expectation that these orders are both correct and will be carried out without further ado; or the functional type in which more or less conference or discussion takes place, with consequent broadening of initiative and responsibility. This latter system, however, cannot mean that all members of an organization confer on all problems, which in any large establishment would prove ineffective in practice; but that an organized system of conferences should be provided. The problem and its solution is thus stated by a manufacturing superintendent whose success in organization is of very high order.

"We formerly had regular foremen's meetings twice a month at which I presided and gave specific instructions on general matters, answered questions, and brought out discussions on any matters of general interest. However, as the plant grew larger, it did not seem feasible to conduct these in the same manner. First, it took too long on account of the large number of foremen, and second, if held during working hours it took them away from their work to such an extent that it was not advisable. We therefore started our present scheme, which is as follows:

"At irregular intervals, sometimes as often as once a week, and sometimes once a month, depending on circumstances, I have conferences with all of my assistants and division superintendents, about nine all told. This is in the form of round table discussions, and I first take up various matters of general factory interest which have come up between that time and the last meeting, discuss them, and make rulings. These are incorporated in

minutes which are afterwards sent to each superintendent for his guidance. These meetings also afford an opportunity for superintendents to make suggestions for the general good, or to ask questions in regard to matters which affect their division in connection with its relation to some other division. Aside from the above, the various division superintendents at irregular times, as they see the necessity, have meetings of their general foremen, at which time they pass on the rulings from the former meeting, and also take up matters pertinent to their own division."

The member companies of the Association in practically every case hold conferences. These conferences upon the whole fall into three classes:

1. Chief Executives.

"The highest conferring group is what is known as our Board of Management, consisting of the officers in charge of the different plants and departments of the parent company and the officers in executive charge of our subsidiary companies."

2. Department Heads.

"A regular important conference we refer to as the General Management conference, at which the writer [General Manager] presides. This conference includes my assistant and the heads of our sales division, operating division, and such departments as purchasing, traffic, research, treasury and service engineering. The discussions at this conference are on general business conditions as particularly affecting our company and its activities. This conference plans, to a very great extent, action with respect to any situation that may be confronting us or we think may arise in the future. While these conferences require and demand a great portion of the time of our more important executives, we are fairly convinced that the time so spent is of inestimable value, both with respect to the co-ordination of our activities, and for the informative value which such conferences are bound to have."

3. Foremen.

"We have instituted, for the benefit of our foremen, what is known as the Foremen's Forum, which meets every second month.

At these conferences the foremen are fully advised of general business conditions and at the same time informed fully of the activities and progress of our company. We endeavor to be just as frank as possible, and in every instance lay all of the cards on the table. We find this to be very satisfactory, resulting in a co-ordination of effort which we believe could not be obtained or accomplished otherwise."

The department-head conferences very often are divided into two sections; sales and production. And in addition there are special conferences, such as inspection, safety, development, patents, etc., depending upon the nature of the business. A telephone company with some two thousand supervisory officers widely separated will not employ the same methods as a localized factory; but both may, and do, use the conference system.

Among these special conferences, one particularly has attracted a great deal of attention the last few years, viz., employee representation in management. The National Association of Corporation Training last year in a study of personnel activities conducted by member companies compiled this summary based upon returns from 157 different concerns:

	No of Companies
Shop committees	28
Employers' unions	2
Trade union representation.....	5
Welfare committees	31
Federal plans	3
(a) House, senate and cabinet joint councils.....	2

How Meetings Are Conducted

A considerable majority of companies have regular days set for the conference, with provision for special meetings subject to call. With respect to time, noon in connection with luncheon appears to meet with favor.

"The meetings are held at noon. As we do not have a restaurant in connection with our plant, we use a private dining room in a convenient department store. Lunch is served at 12 o'clock at the company's expense. The meeting comes to order at 12.30,

and is dismissed usually about 1.45. The luncheons cost the company about 25 dollars a week, which expense is justified by these advantages; good fellowship among department heads is promoted. Each executive's lunch hour is reduced to thirty minutes. This saving of one half hour of time at the average salary paid to these men, more than compensates the company for the cost of the lunch. If the food is good, a full attendance usually can be expected, which obviates the necessity of a system of penalties for non-attendance at these conferences. Meetings held before the luncheon was arranged for, we found were not always fully attended."

The tie-up with the business represents an important matter, if the conference is not merely to be talk, but produce results. Three methods are often employed—minutes, attendance of more than one rank of officers, and reports. Citations which follow illustrate these respectively:

"Once every week at each of our mills, there is a meeting of the general manager and his assistants and the heads of the departments in the mills. At these meetings minutes are kept which are sent to our president for his information. Once every week, there is a meeting in the general office presided over by the president, and at this meeting are the general managers and their assistants together with the head of the departments in the general office. At this meeting minutes are kept, and copies are forwarded to the general executive officers in New York. You will note that in this way, the general managers and the heads of the departments in the general office are kept in close touch with the business of the company."

"The managing committee of the bank meets four times a week and its meetings are attended by senior administrative officers serving for fortnightly periods in rotation. The effect of this plan is to bring the senior administrative officers in closer relation to the managing committee and to keep the managing committee currently informed concerning the activities of the various functions."

"We started our meetings several years ago with these objects: To bring the department heads together and discuss with them the company's policies, to give the men a uniform conception of the goal toward which they were expected to work; to

give each one an opportunity to express any grievance of himself or the people in his department against the company or other departments; to afford an opportunity for smoothing our misunderstandings; and to encourage the offering of suggestions for improvements of various kinds. Some of the more reserved men, however, did not participate in the discussions. To encourage each man to participate, he was asked to read a written report on his department for the preceding week. To prepare a report of this kind necessitates the reviewing of the week's work, which is of incalculable value to any executive. Moreover, an executive's attention will be brought to the necessity of conducting his department according to a fixed policy, to attain substantial results which may be set forth in his report. Hit or miss methods of management are discouraged, because the executive can be depended upon to avoid, if possible, the embarrassment of reporting a miss in his weekly résumé."

What has been said of conferences so far indicates, we trust, their flexibility in meeting the needs of companies working under diverse conditions. Within an organization there is not one conference, but a more or less continual taking council together. "In fact," as one president puts it, "the executives of all departments are continually meeting and conferring with each other in a regular and systematic way."

Advantages Derived from Conferences

What advantages are secured through these conferences?

It must not be overlooked in considering this question and the answers which follow, that securing superior management in a large modern business establishment represents a problem most difficult to solve. Large-scale production means specialization, a loss in the old-time personal relations of the small shop, the tendency for each man to think too narrowly, and selfishly, of his own job and place in the organization. Team work, sound foresight, economy, and an aggressive forward policy are qualities which affect decisively the company's profit and loss showing; and if the conference system develops and increases these qualities it ought to be utilized for whatever it is worth. With this viewpoint we cite the views of several member executives.

"These meetings are beneficial both for the dissemination of ideals through those who attend and for the actual accomplishment at the meetings."

"Where full and frank discussion is encouraged, not only is collective opinion determined but conferees are broadened in their viewpoint through the exchange of ideas and through increased self-confidence."

"The sense of responsibility developed among the members of the committee and the giving to them broader views of our problems, are benefits which we derive."

"The members in conferences make estimates of what they expect to do, and of what their fellow members can depend upon them to produce; and later on they have to report upon what has actually been accomplished. Every man, of course, feels proud to make a good showing both in his predictions and actual accomplishments."

"For me as president it is invaluable, as I get at the conference a measure of each man's attitude and ability which is usually confirmed by my individual contact with such an official."

Drawbacks Which Are Encountered

Opposed to these various benefits of the conference system, its disadvantages ought likewise to be taken into consideration. While we have been assured by certain executives that they "never had any drawbacks" we know that in practice such 100 per cent results in the use of conferences do not really exist. What disadvantages are experienced?

"Department heads are prone to report only their commendable exploits, overlooking any mention of things that reflect discredit on their departments. This tendency, unless controlled, will cause the meetings in time to become nothing more than mutual admiration assemblies."

"Executives with a narrow vision are likely to conduct their departments toward the ideal of making a good weekly report, regardless of the best interests of the company; to seek a production record regardless of the quality of the product or a sales record regardless of the desirability of the business."

"The directing executive of a company who depends upon

such a reporting system to keep him in touch with the affairs of the business runs a grave danger of being misled and only partially acquainted with real conditions."

"Executives given to bombast and display can waste much time of the assembly by long effusions of purposeless rhetoric, in addition to the time and expense spent by them in getting ready for such effusions, which may be quite considerable."

"It is not always possible at the meetings to discuss all the details of a problem and its solution, and the meeting is liable to declare itself as to a policy when it is not practicable."

"The important question concerns the determination of the chairman of the meeting to confine the discussion strictly to the matter in hand. Unless this is done, the meeting promptly becomes a free-for-all criticism forum."

The Handling of Conferences

The presentation of the chief benefits and drawbacks of conferences, which has been made, will prove of some assistance in securing better net results. Perhaps it also will prove helpful, however, for us to present a few suggestions, briefly summarized, in conclusion.

1. Open-minded democracy on the part of the higher executives is the first essential of good conferences.

To confer means to take council together, not simply to announce from the chair what has been decided upon in advance. Let no one deceive himself that merely calling a lot of people together constitutes a conference; for it will not long deceive those who attend. They are quick to sense whether the matter up for consideration is cut and dried, the conference a mere form; or whether the group is up against an unsolved problem where the only test applied to the solutions suggested is that of serving best the company's interest. Conferences of the latter type evoke such cordial response, under such variety of conditions, that this appears a sound conclusion: The usefulness of conferences varies with the broad, or narrow, viewpoint held by the higher executives in a conference concerning the function of an executive officer.

2. The conference should be neither a mutual admiration society nor an assembly of chronic kickers, but a real work-a-day affair.

The company is faced with problems difficult to solve, the performance of the organization and all its members is never 100 per cent and the conference has for its aim better results. Commendable performances should be recognized and applauded. But likewise it is a sign that real progress in conferences is being attained when members commence to seek council upon their difficulties and mention mistakes they have made. Moreover, while the meetings should not be conducted solely to afford an outlet for grievances, no restrictions should be placed on any man who wants to "blow off steam." Ability to withstand such attacks in good spirit shows that healthy conditions exist in the organization.

3. Careful preparation does much to insure a good conference.

Loss of time, which means loss of money to the company, long discussions and nothing decided upon, are dangers threatening the conference which preparation in advance will reduce decidedly. The conference which meets with a definite outline of topics in somebody's mind, preferably the chairman's or better still every member's, thereby have gone far to insure definite accomplishment.

4. The chairman should keep the conference moving and on fruitful lines.

The keeping of all members interested, alert, and contributing their best ideas upon the subject under discussion, and no other, represents by no means an easy task for the chairman. Yet we find chairmen every day measuring up splendidly to the requirements. Much depends, as has been pointed out above, upon his point of view, his willingness and desire to hear from his associates.

5. There should be a tie-up between the conference and the business.

Methods for doing this have already been indicated.

6. The training afforded executives, though not the primary purpose of a conference, is none the less valuable.

A. C. Bedford, now chairman of the board, in reminiscencing over his early days with the Standard Oil Company, tells how when a clerk in the foreign department his interest in the company's future was first deeply stirred by copying for one of its committees a report submitted by an oil investigator in the Far East; and later that as a young department head admitted to the company's conferences, he was allowed to absorb from veteran executives the information and training which was to render him of value in the organization.

There is much in this incident which is widely applicable. Men cannot become interested in a thing they know nothing about. Conferences, however, provide information, personal contact, stimulus, company problems and methods for solving them. When utilized with even a fair degree of skill, these things train men excellently, while at the same time the primary function of the conference, the better handling of business, is attained.

MR. HERMANN LEMP (General Electric Co.): About a year ago we started one of these training movements for executives at the Erie Works of the General Electric Company, for the simple purpose of introducing the training of foremen. We felt that unless the executives at these conferences, the executives of departments, were truly in accord that we should find the training of foremen uphill work. A similar arrangement, planned for teaching foremen, was later put into effect, since we were able to sell the proposition to the head executives, as an attractive proposition.

We found among other things, that one executive would quickly find out the benefit of this training, not necessarily to himself, but to some other executive, and these views were expressed from all sides, so when the time came when the foreman training was to be started, they sent in the names of the men who should be asked to volunteer for the same training.

CHAIRMAN COLE: May I ask how high an executive was included in this conference,—how high up the line did you go?

MR. LEMP: The manager of the works, all the heads of departments, the production manager, the various building superintendents, in fact the very top of the organization, were asked to criticize the methods which we proposed to introduce and make their own suggestions for training foremen. The object was, as I stated before, to get their support. We got that support by showing them in what manner we expected to conduct the foremen conferences. In other words, they themselves were given a dose of the same medicine which we expected to give later on to the foremen. Some did not take kindly to the plan at first intimating it was something we were trying to put over, but when they really found out the value of the training, and all the advantages of it, we got commendable support.

I should state that the Lynn works of the General Electric Company have gone through exactly the same experiences under the leadership of Mr. Dee.

MISS ANNE DURHAM (Federal Reserve Bank of Chicago): The Federal Reserve Bank has conferences which they do not call executive training. They call it a planning conference. They meet once a week, and discuss matters that should be taken up as to the importance of work, also matters of discipline, etc., and

these conferences have been conducted by an official from the La Salle Extension University.

CHAIRMAN COLE: One of the principal advantages as outlined here as I see it, is that this affords a means for the executives to become acquainted with each other. The Committee quoted in its report, where a company furnishes a luncheon, at an expense of approximately \$25.00 a week, for the advantage of the acquaintanceship they get between the department heads. In this way they see a broader field, and that seems to have paid them for their trouble and for the expense.

MR. LEMP: If you should announce these conferences as a means for training executives, you will find that many will rebel against the idea very strongly, but if it is presented to them in the same manner as we did, and which we found successful, that we were really after their honest criticism, and that this was a means for getting their consent, that we were really anxious to get that expression, you could get them interested in the movement, because there is no system or method of training you can place anywhere that will be applicable to all, it always being influenced by local conditions, and many of the executives will have to be handled very tactfully, and if you approach them as if you were going to teach them something, they might not like it, but if you ask them for their suggestions and criticisms, you go a long way towards arousing their interest and cooperation.

One of the chief objections which we found to the inauguration of the plan, was, according to some of the statements made, that we were going to shut down the works completely, if the principal executives were to be in the conference for an hour or two each day, and we said, in answer, that the business should be able to take care of itself for a limited time, otherwise it proved that the executives were not competent organizers of their respective departments. There is always a little of this sort of thing at the beginning, objections and criticisms are raised, but after a while you find that you can get the plan into operation, and you can secure the sympathetic support of the foremen who are to be trained later.

C. E. SHAW (Dennison Mfg. Co.): In connection with the subject of executive training, there is rather a new and interesting experiment being worked out at Antioch College, and I think it

would be interesting to the members, if you will ask Miss Huey to explain the plan she has here, and knows all about it.

MISS KATHARINE HUEY (Antioch College): I should like to start the ball rolling, to get some constructive suggestions from the floor. Throughout these meetings, we have repeatedly had it said that a plan would be O.K. if we could make the manager do so and so, or sell it to the management.

In this session given over to the problem of executive training, I think we shall lose a wonderful opportunity if we do not take advantage of it, to devise some workable plan of bringing to the executive, well up in the plant organization, who is not now particularly interested in personnel work, some of the fundamental principles of industrial relations that we have been discussing at this convention.

MR. J. O. STEENDAHL (S. F. Bowser & Company, Inc.): Last January, S. F. Bowser & Company, Incorporated, held a four-day conference which included the executives, and all sub-executives down to and including assistant foremen. At that time, we were paring down expenses and discussing the feasibility of cutting wages also. The management was sold on a delay of cutting wages in the following manner:

It was decided to hold an executive conference, the purpose of which would be to discuss ways and means of increasing production, lowering cost and overhead and developing better management, better training and supervision, and the elimination of waste in man and machine hours.

These meetings were held for a period of two hours each day. The talks and prepared papers covered the vital subjects of finance, cost and overhead, accounting, management problems, manufacturing problems, as well as training, supervising and handling men. These talks and papers were prepared and delivered by selected executives and sub-executives.

The results of the conference were very pleasing to the management as well as to the sub-executives. It has been generally remarked that the conference was most successful in its purpose, to give members of the administrative force a unified purpose, tempered with a stronger spirit of cooperation and a closer acquaintance with the personalities and duties of their co-workers.

MR. JOHN F. KELLY (New York Edison Co.): Referring to the title of the report "Executive Training," it is a very unpopular

one. It seems to me we could have found a more appropriate title for the report of the Committee, and one that would please the executives better. I have in mind a case where one of our Class A members was about to withdraw from the Association—and in New York we never let anybody get out if we can help it. I went to see the Class A member and said, "What is the big idea?" He said,—“When I presented the program of the convention, and one of the executives saw that we were going to train him, he said, ‘Nothing doing, I am going to stay out of this organization.’” I think many men have a wrong idea as to what is meant by the word “executive” in the title of the Committee’s report.

MR. HUGO DIEMER (La Salle Extension University) : I think many of the young men who have recently had war or post-war positions, where they were designated as executives, consider that their executive duties are along the line of what the enlisted man told the other enlisted man when he asked him what a major was. He said,—“You know the lieutenant has to know everything and do everything; the captain does not have to do anything, but he must know everything, and the major does not have to know anything or do anything, and I think that many of the boys have that idea of the executive.

A. F. PICKERNELL (Abraham & Straus) : We are making an experiment in our organization which may be of slight interest along this line. One of our most important positions is that of aisle manager, who has charge of one, two or three departments, and who carries out the store policies and systems among the assistants in his departments. It is an important position. We are planning, and already have started, a series of dinners for our aisle managers. We intend to have one each month. At these dinners a paper is to be prepared by the auditor or comptroller, or the general superintendent, or some other executive on the work of that particular department or branch of the business. The auditor will tell about the auditing of the sales checks, the importance of getting them to the office correctly, and the difficulties they have by not getting the sales checks to the office made out correctly. In that way we hope to train our aisle managers to enable them to give more effective and more efficient supervision of the sales force.

We are going to hold these meetings once a month, and at

each meeting we shall take up a particular angle of the business, it will be the delivery department next month, and the month after that another department, possibly the auditing department. We have enough subjects to take care of our monthly dinner meetings for a number of years without repeating any of the subjects.

MISS KATHARINE HUEY (Antioch College): With regard to Antioch College, I have made a few notations on its history. The College was founded in 1853 by Horace Mann. It was one of the first co-educational colleges in the United States, and since Horace Mann's ideals for it are tied up very closely with many of the ideas which have been expressed during the sessions of this convention, I should like to give two or three of the beliefs of Horace Mann to show his very progressive viewpoint along some of the lines which we have been so seriously discussing for the last few days. Horace Mann believed that it was the high function of a college to act more or less upon all human interests and relations. A college acts upon youth, and hence its influence radiates wherever youth go, and that, in this country, is everywhere. Its responsibilities are commensurate with its influences; and with a true man, every responsibility is a new incitement to effort. As to the health of the individual, it was his opinion that the time will come when men will speak of Christian and un-Christian health, as they do now of Christian and un-Christian character. He said that if heart and soul and mind are to be devoted to the service of God and of our fellowmen, then who can overstate our responsibility to keep the body—through which alone, and by which alone, the highest achievements of practical heroism can be won upon earth,—in the robustest working and militant condition. In the final address that Horace Mann made at Antioch, shortly before his death, he charged those he left behind with this spirit of service,

"I beseech you to treasure up in your hearts these, my parting words. 'Be ashamed to die until you have won some victory for humanity.'"

Mr. Arthur E. Morgan, who is the president of Antioch College, has been asked a number of times why he has undertaken the supervision of Antioch, a struggling small college with the buildings and equipment greatly in need of revision, and why he

should have put his modern ideas into Antioch, instead of constructing modern buildings and starting anew. In answer it should be understood that Mr. Morgan feels very strongly, as he has frequently said, that money can buy modern buildings, but money cannot purchase the spirit of Horace Mann, which has pervaded the institution for several generations. It is that splendid spirit of Horace Mann which Mr. Morgan desires to perpetuate in his adaption of Antioch College, to practical methods of education. Articles have been published in *World's Work* and the *Outlook* and in some of the larger newspapers about the new plans and no doubt many of you have read of Mr. Morgan's history. He is chief engineer of the Miami Conservancy District, an association formed for the protection from flood of towns and cities in Ohio along a certain portion of the Miami River, and has supervised the spending of \$35,000,000 which has been appropriated for engineering work in that connection. He has held the position of President of Antioch College nominally for about a year. In the last four or five months he has been gathering some of the new faculty, and in September starts on his new plans.

Antioch is interested primarily in training for administrative ability and management. In the *Antioch Bulletin* he has enlarged on this point as follows,

"The number of persons in the United States who are managers of their own time and resources, rather than employes working under direction, aggregates several millions. This number includes farmers, merchants, manufacturers, contractors, professional men and women in private practice, and men and women in many other callings; a very large part of them being owners of the institutions they control. Successful management demands, in addition to natural intelligence and character, a very definite type of ability. The manager, especially when he is also the proprietor, must have a general knowledge of all phases of his calling, and must have the ability to coordinate all elements into an organic whole. In addition, he must have a sound knowledge of men and affairs, and must have a personality well developed in such qualities as foresight, caution, courage, tact, and initiative."

Next the College plans to put the student on a self-supporting basis. We have been asked how soon after entrance the indi-

vidual will be self-supporting. That will depend upon the individual's ability, on his previous industrial experience and skill, and partly on the general business conditions.

As to the cultural opportunities the course is a six year course instead of a four year course. In one of the sessions of this convention in connection with the educational plans at Antioch, the question was asked, since we were going to train the students along more practical lines whether it would not be necessary for us to cut down the cultural courses. Mr. Morgan has made the course a six year one so that we may give the required technical training without detracting from the cultural courses. The plan will be a cooperative one. The boy or girl will work on alternate periods, five weeks in college and five weeks in industry.

In the first years many of our students will be placed in the industries surrounding the college. We have met with cordial cooperation on the part of the neighboring industries, a large number in fact having declared themselves as desirous of taking a group of our students, and we are to make in the course of the next two or three months a careful survey of these institutions to be sure that we secure the best openings available for the individual students. We plan later to have on the campus a building housing several small industries. We shall erect that building this year probably, and we hope that one or two industries will be started during the first year. We are developing our campus industries more fully for the use of the fifth and sixth year men and women.

In training for proprietorship Mr. Morgan wants our students to be all round men and women. If the student is taking a course in mechanical engineering, with the intention later of administering a shop, he wants that man trained so that he will not only have his technique in shop management, but at the same time so that he will be competent likewise in matters of transportation, distribution, financing, accounting, personnel management, etc. It is further Mr. Morgan's belief, that, although the men and women in the first three or four years of their course may profitably obtain their experience in subordinate positions in neighborhood industries, the students of the fifth and sixth years should follow a somewhat different plan. The students before graduation probably can work to a little better advantage in conjunction with the industries under the jurisdiction of the college

where the boy or girl will assume some of the responsibilities of management, and as he progresses in administrative ability, he will be given additional opportunities. It is believed that most of the students next year will be cooperative students, holding positions in the industries in the Miami Valley.

In addition to several six year cooperative courses, Antioch offers straight four year arts courses. Mr. Morgan, although emphasizing the cooperative feature is in sincere sympathy with a full time cultural course, as is shown in his own words in the Antioch Bulletin,

"Antioch must preserve and encourage the spirit of culture which has marked the institution since its birth, and the student whose interests will carry him later into literature or other forms of artistic endeavor will find the warmer welcome because of the contribution he can make to the spirit of the college."

Now, as to the number of courses, the average small college offers between 250 and 300 separate and distinct courses, and in order to give these courses it is necessary to have a fairly large faculty. Mr. Morgan plans this year to offer only about 80 regular courses. In both the cultural and technical courses, however, where a student demonstrates his capacity, and desires to carry a subject further than is provided for in regular courses, arrangements will be made, where practicable, to provide opportunity for the student to pursue the subject by himself or in a small group, with occasional access to a qualified teacher for advice. Arrangements are being perfected to secure the part time services of a number of specialists for these autonomous courses. Credit will be given for them as for other courses. By limiting these autonomous courses to students of proven ability in the subject in question, members of the faculty will be able to give more effective attention to such cases.

In order to keep the faculty mentally alert, the instructors with the exception of those teaching purely academic subjects such as English and Latin, are men and women who, in addition to their functions as teachers, can offer an industrial service under the auspices at Antioch, to the community at large. Backed by the prestige of the college, our directors, whether it be our director of accountancy or of advertising and selling, of personnel administration or industrial health, will offer to the com-

munity a consulting service along their particular lines. Mr. Morgan has planned that his faculty offering industrial subjects should draw salaries not merely for the work they are doing as instructors in Antioch College but that they should make their salaries merely a part of the net returns, the larger portion of which will come from this consulting clientele. He wants to maintain his faculty very much alive, and keep them away from an overbalanced theoretical academic point of view.

Students will also be trained for the responsibilities of citizenship. Students should go out from Antioch, not only trained as technicians and as generalists who have had experience in the general problems of transportation, production, selling, distribution, personnel, etc., but also as good citizens, and for that purpose carefully prepared courses on social economics, psychology, personal finances, and other informative courses will be required of each student.

Antioch also wants students to have some acquaintance with the modern sciences. It requires the students to have some understanding of the fundamentals of chemistry, of physics, of biology, and of earth science, which are essential to the general information of the well educated man.

In training for responsibility, the boy and girl who want to be proprietors should have had not only the experience of running a little industry, or one portion of an industry, but also some practical concrete responsibility—some experience in financial success or failure. In their senior year, in so far as possible, students will be given responsibility for a part of an industry and given the best assistance with experts ready to advise them. If they do not make a financial success of their plans, Mr. Morgan wants them to suffer a little bit—go on bread and milk a little while, while they are in the college, and he feels that it is almost impossible for a boy to get this serious outlook while the responsibility of proprietorship is being assumed by someone else.

We have applications accepted from 26 different states in the United States and from several foreign countries. Of the applicants accepted, only a few students so far have elected to take the arts course on a non-self-supporting basis. Boys and girls from Dayton and elsewhere, many of them from families where there has never been a question of financial pressure, have un-animously elected to enroll under the cooperative plan.

In closing may I, in behalf of Mr. Morgan, tell you that he is very anxious for all constructive ideas that can possibly be given him, and that he will welcome the suggestion of anyone connected with this Association who feels he may have something to contribute to the plans for Antioch.

CHAIRMAN COLE: The section on Unskilled Labor and Americanization has adjourned and moved down into this section.

MR. J. E. BANKS (American Bridge Co.): We have been trying in Pittsburgh for the last two or three years to get the Chamber of Commerce to help carry out the Americanization problem, not only for the foreign-born, but for the American-born and the colored man. The industries of Pittsburgh, to a great extent through the influence of our local chapter there, and of the Committee of which I am Chairman, helped to bring this about, and the Chamber of Commerce of Pittsburgh, established in a large and generous way a Bureau of Americanization.

MR. H. RALPH DAVIS (Americanization Bureau, Chamber of Commerce of Pittsburgh): The night before last in East Pittsburgh, I attended commencement exercises of the Westinghouse Technical Night School. The school there is divided into different sections. The one section in particular which appealed to me, was that section dealing with the foreign-born; dealing with those who could not properly understand our language. The president of the class spoke and used a simile which struck me as very apropos, and I am going to ask your permission to pass it on to you. He said that the man who comes here from a foreign country, not understanding our language, nor our methods, or modes of life, might well be likened to the automobile tourist in some region of the country through which he has never toured before. The tourist is very anxious to see the sign at the cross-roads directing him this way or that way,—and these people who have come to us are our tourists. The Americanization efforts that we put forth might well be likened to that sign post guiding them along the proper route to their correct destination.

How can the tourist be directed, developing the simile a little further, and bringing it right down to the National Association of Corporation Training. I wish to say here and now, that through the Pittsburgh Section, with Mr. Banks in the Chair, the Chamber of Commerce Bureau has received a lot of good, efficient cooperation. I believe that this organization might well

be the connecting link between any Americanization program in any city, whether it be under the auspices of the Chamber of Commerce, the public schools, or an Americanization council or any other. I feel sure, that the local representatives of the National Association of Corporation Training can establish a connection between the general Americanization activity and the particular plant represented by the particular representative and the general number of plants represented by the group representing the Association in that city. Moreover, that connection, once established, the Americanization organization can carry the contact one step further, and become the connecting link between the industry in general, and the educational forces of the city, preferably, to my mind, the public schools, as the regularly constituted educational force; and I believe that Americanization work, as the term has been used, can be greatly helped if that connection is made first, through the representatives of this National Association, and through industry with the Americanization activity, and then the Americanization activity with the public schools, and, carrying it one step further, with all corporate agencies and organizations in that particular district. I hope that that plan will appeal to you. I hope that you will consider it, and I hope that this Americanization Section of this National Association will send that word out to all of the members of the Association, because this organization represented here in this conference can be absolutely vital in Americanization programmes everywhere, locally and nationally.

In Americanization work we have a problem. You all know what the problem is. In some centers it is not a difficult one, while in other localities, for example such as Pittsburgh, it is very large and difficult. Taking the problem as a whole, there are seventeen and a half to eighteen million foreign born in this country, approximately eight millions of them unable to speak our language, and approximately ten millions holding allegiance to some flag, other than the Stars and Stripes. We have a large problem, seemingly unattackable, if I may coin the word; seemingly too much for us to grasp,—yet if that problem is broken up into small units, and each unit divided into some central unit, as we are doing today in Pittsburgh, I believe it can be handled and the assimilation work go on and be effective.

In Pittsburgh we have laid down two broad, basic principles

in the application of the work—First, I believe, and I am absolutely convinced, that we cannot properly attempt to explain the spirit of America to the man, the stranger, who dwells beside us until we ourselves first have that spirit firmly intrenched in our hearts; until we ourselves first practice the American spirit that we attempt to preach. I make no claim that it is not done, but I do say this, a little bit of humanity, a little bit of unselfish interest in the foreign-born, not that the foreign-born should be put on a higher plane, or that charity is necessary or desirable, but a little demonstration of the real spirit of helpfulness, will go far toward Americanization; and secondly, I believe, and this is practically an axiom in Americanization work anywhere, and we have taken the stand, that the first six months, the first year, or the first two years of the residence of the foreign-born in this country, determines absolutely his future attitude toward our laws, toward the government, toward his job, and the industry for which he works. The treatment he receives, the contacts he makes, the acquaintances and friendships he forms, are the crucial things that count in the first period during which he is here. If we are going to permit the exploiter, and we have some—if we are going to permit our undesirable citizens, and we have many of them; if we are going to permit the shyster lawyer, if you will permit me to use that term, to practice fraud on our immigrants; if we are going to permit anyone to give him other than a square deal, if we are going to sit calmly by and allow that thing to go on, then I say the results cannot be good, and we have no just cause for complaint if they are not good; but, if, on the other hand, we are going to set up the sign post and take a real friendly interest in the immigrant, and if we are going to consciously attempt to mould that raw material into good citizenship; if we are going to extend the hand of helpfulness, and if we are going to guide that man around the boulders and pitfalls of the road to good citizenship, then we can naturally capitalize for good that which the immigrant brings with him, for the benefit of the country, and we are really helping the nation, the state, and the community in doing so.

We have taken that as our basis for dealing with this subject, and the Chamber of Commerce of Pittsburgh Americanization Bureau is attempting to do that one thing, to provide the right sort of contact for the immigrant; to extend to the immi-

grant the proper spirit of America in terms of helpfulness; without attempting to take from him his love for his motherland, if he ever can forget his motherland, for the man who does not love the land where he is born, cannot love America as we want him to,—without trying to take from him his language, without trying to take from him his regard for his old customs. Rather we are attempting to build a knowledge of the new upon the basis of the past, and are trying to demonstrate what can be done in terms of what has been done, and so, with the spirit of helpfulness and the contact which this Association can bring to any Americanization organization in any city, through your plants and your influence, for you have influence in your plants, these things which we seek can be accomplished in the spirit of your activity. (The meeting then adjourned).

FOREMEN TRAINING

THURSDAY AFTERNOON

MR. E. R. COLE, Presiding

MR. E. R. COLE: Mr. Harry H. Tukey, Chairman of the Committee on Foremen Training will present his report.

MR. H. H. TUKEY: Mr. Chairman, ladies and gentlemen: The instructions to the Committee on Foremen Training were somewhat comprehensive and if they had been carried out to the letter would have included everything pertaining to foreman training and would have required a much larger volume than is represented in the report upon the subject which has been submitted for your examination.

In preparing the report the Committee has attempted to carry out the instructions as completely as space would permit, but yet, sufficiently brief to still remain interesting. In addition to fulfilling the instructions the Committee undertook an added responsibility; namely, to make some distinctions which are apparently at this time not only pertinent but are fundamental.

The field of activities which is centered around the development of foremen is at present characterized by a condition which causes people to assume that they are talking upon the same subject but, yet, in reality, their subjects are quite widely separated. This creates what is apparently a great divergence of opinion and when two persons get together for an exchange of views there is difficulty in arriving at a common understanding. The cause of all this seems to lie in the very wide application of the term "foreman training."

In order that this confusion may be minimized the report has attempted to create a distinction between the various classes of training activities of this type that are being conducted. It has attempted to classify them to set them off by themselves so that each may be measured, analyzed, and adaptations made from them to suit the specific need of organizations interested in establishing this work.

Perhaps to the reader it will at first seem to be of little consequence as to whether the work is called "foreman" training or

foremanship" training, the distinctions which are made in the report. Either phrase will perhaps serve to give us an indication of the particular group with which we are dealing but, as demonstrated in the report, this indication is not always accurate for many of our so-called foreman training activities are extended considerably above and below the grade of foremen or its closely associated grades.

In viewing the situation, the Committee believed that any distinction that is made must be founded upon the character of the course itself, and, therefore, those courses which were apparently very general in their content and were presented to groups of men whose position covered a wide range in the organization might be termed—foreman training courses but, to the other extreme, those courses which attempted to develop better performance in a given job or, in other words, attempted to advance better foremanship should be given the more specific title of foremanship training or training in the foremanship trade. It seemed necessary at first to make these distinctions in order that the subject itself might be treated without creating still further confusion.

In its attempt to carry out instructions A, calling for a definition of the scope and function of foreman training, the Committee has confined itself to defining the scope of the more specific type of work;—foremanship training. It seems to be quite impractical to attempt to place a limitation upon the scope or to apply any one function to the more general courses which have been characterized in the report as foreman training courses.

We have said that *scope* may be considered both as to range in the organization and range in content. In its range in the organization foremanship training may be said to include the men who hold the lower supervisory positions in the industrial staff such as pushers, straw bosses, gang leaders, sub-foremen, assistant foremen and foremen. Range in content for training in foremanship would be limited by the jobs in that trade as they occur in the given organization in which the training is adopted. The aim in this type of work is job developmental and the range of content will be governed by the aim and will include only those responsibilities which come within the foremanship job as it is commonly understood.

Function is perhaps another way of saying "aim." Examina-

tion of numerous manuscripts and outlines has demonstrated that there is insufficient thought being given to the determination of just what function training of this type is supposed to perform. This is particularly true of the more general courses. It is not enough to say that "we are getting a lot of good out of this" we ought to know what *kind* of good we are getting. It is important that we try to measure our benefits in accordance with certain aims or standards which must be at least temporarily set up before the work is established. The more specific type of courses do, apparently, set up a yard stick against which the results of the course may be measured and equally provides to the foreman an implement with which he may, to some extent, measure his own gain. This is the yard stick of job performance and it seems to me that improvement in job performance is the primary function of foremanship training.

It would have been highly impractical for the Committee to attempt to impose upon the members of the Association a standard curriculum, for such a course would not find equally successful application in any two establishments. The apparent alternative, therefore, was to provide a variety of outlines as functioning under each sub-division; namely, foreman training and foremanship training. From such an assembly of material those who are interested in promoting this work can assemble a course which is suited to their specified need. This we have attempted to do and have included not only the experiences of many members of the Association but, as well, have gathered information from outside sources.

In addition we have included citations of work that has been done in the development of leaders for foreman training classes. This work is the most important and it must be recognized that foremanship training cannot be successfully developed without competent leaders who are schooled in the educational principles involved in this work.

We have included outlines of, and comment upon, courses conducted by agencies which are somewhat divorced from industry. Some of these are operated for commercial gain, others are governmentally operated. It is probably safe to say that the results of those agencies which are commercially operated must be affected by the fact that their service is somewhat hampered by the necessity for a profit to accrue from the undertaking. On the

other hand, many of these agencies carry a consulting staff that is of a decidedly high calibre. To the small "organization" which cannot afford to maintain such experts upon their staff, such agencies provide an opportunity that is worthy of consideration. However, the opinion is gaining favor that, particularly, the larger organizations can do the job best themselves. That is essentially true where the work is of the job training character involving an intimate knowledge of plant procedures.

The Committee has not included outlines of all such courses as they are, in the main, readily available to any who may be interested in them.

There have been several additional outlines received by the Committee after the manuscript for the report was submitted to the Managing Director. Some of these are sufficiently interesting to merit attention at this meeting. There is one group of outlines that deals almost entirely with the instructing phase of the foreman's job. It so happens that these pertain to work that has been conducted under the supervision of the Federal Board although I do not wish to imply that the foremanship training activities of the Federal Board are confined only to the instructing phase of the foreman's job for they are, as well developing leaders of foreman classes and conducting specific training with the foremen themselves in the plants.

Notable examples of these are the reports of R. V. Billington, State Supervisor of Trade and Industrial Education, Fort Collins, Colorado, who conducted foremanship training with the Denver & Rio Grande Railway; P. D. Croney, Director of Trade and Industrial Education, who conducted a joint foremanship training proposition in San Jose, California. The work of Mr. Geo. H. Jensen, conducted among the lumber interests in the state of Washington, and the work of Mr. Frank Cushman, Agent for the Federal Board, as conducted at the Klear Flax Linen Rug Company at Duluth, Minn., and the Cosden Refining Company at Tulsa, Oklahoma.

In its handling of instruction "C", pertaining to methods of instruction, the Committee has emphasized the use of the development method or, perhaps more popularly termed, the method of discussion. This method is increasing in use for this type of work and we are apparently getting almost entirely away from the conduct of foreman training courses on a purely lecture basis.

This is particularly true of the foremanship training but the lecture method is to some extent still used in the more general type of courses and it perhaps lends itself best to the general course. It is not adapted to the more specific work, however. We have emphasized that it is highly desirable to maintain the utmost freedom in foreman group meetings, doing everything that is possible*to promote open and free discussion, and equally exerting every effort to avoid the atmosphere of the class room.

It may be that the report has carried no new message to its readers but we hope that, at least, it will serve to point out that those of us who are interested in foreman training should make a closer analysis of the job that we are attempting to do and that before starting upon our voyage we should definitely determine our destination and select a conveyance that is headed for that point.

COMMITTEE ON FOREMAN TRAINING

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Chairman.

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FOREWORD

During the war period heavy emphasis was placed upon the intensive development of skill in the unskilled and semi-skilled. The efforts that were expended in this direction are now a matter of history. Although the training problems centering around this work were fundamental and common in principle, yet in their solution they were characterized by a wide variety of methods, organization, procedure, etc.

In the development of the problem of intensive labor training there came the large and very important problem of developing skill in leadership, it being early recognized that, regardless of the skill developed in the working force, such skill was almost valueless unless skillful leadership was also obtained, this led to concentration upon the training of foremen.

This type of training has also been subject to an equal diversification of methods, organization and procedure so that at present foremanship training apparently has its "fifty-seven varieties."

As Americans we are strong for standardization, and the question arises: To what extent is it possible to develop greater uniformity in foremanship training activities?

This was probably the thought that caused the Executive Committee to give the Sub-Committee on Foreman Training the following instructions:

- a. To define the scope and functions of foreman training.
- b. To establish definite aims and to frame content which will meet these aims.
- c. To discuss the merits of instructional methods.

Your Committee met October 16, 1920. There were in attendance Mr. Dooley, Mr. Halsey, Mr. Booth, Mr. Steendahl and the chairman. Through the courtesy of Mr. Dooley we also were favored with the assistance of Mr. Russell N. Keppel of the Standard Oil Company of New Jersey. After an extended discussion the Committee was divided into sub-committees, each to handle a definite portion of the instructions assigned to the Committee as a whole.

Mr. Halsey headed a committee to work out instruction A.

Mr. Booth headed a committee to work out instruction B.

Mr. Dooley worked with the chairman on instruction C.

Mr. Keppel agreed to assist in the preparation of a preliminary to the report which would outline its scope and function.

Shortly after this meeting Mr. Halsey severed connections with his then employers, and his assignment was taken over by the chairman and is incorporated in part one of the report. Mr. Booth's study is incorporated as part two of this report. Mr. Dooley's study makes up part three. Mr. McKinney has contributed a standard test for foremen.

In gathering our information we have not confined ourselves to the Association membership, but have gone beyond this field, and we are indebted to the following outside agencies for the contribution they have made to the report:

Mr. J. C. Wright, Federal Board for Vocational Education.

Mr. S. M. Ransopher, University of Texas, Austin, Texas.

Mr. Thomas Diamond, Cass Technical High School, Detroit, Mich.

Mr. George Henry Jensen, University of Washington, Seattle, Wash.

Mr. William C. Ash, University of Pennsylvania, Philadelphia, Pa.

Mr. A. H. Myers, Industrial Secretary, Y. M. C. A. Petersburg, Va.

Mr. Charles R. Allen, Chamber of Commerce, Niagara Falls, New York.

Miss Dorothy Pope, Dutchess Manufacturing Co., Poughkeepsie, N. Y.

Mr. E. D. Dee, General Electric Co., West Lynn, Mass.

As the result of the survey, it is perfectly evident that any attempt at standardization of foreman training activities is not only inadvisable but is impossible. It is as true of foremanship training as it is of other training activities that programs must be constructed to suit the specific needs of specific organizations. No course can be prepared that will apply with equal efficiency and without change or modification to any two industrial organizations. It is pointed out, however, that there is an extreme range of instructional content, a great deal of which, in the minds of the Committee, is foreign to the subject, and that this wide

range of instructional material can be greatly reduced and a higher effectiveness result therefrom.

The report emphasizes this condition and strongly recommends that those who have the building of training programs adapted to foremen make a closer analysis of the foreman's actual problems and concentrate their courses around these problems. At the present time this is probably the only, and at the same time most important, step that can be taken toward the development of uniform practice.

HARRY H. TUKEY,
Chairman.

Scope and Function of the Report

It has been only within recent years that foremanship training has been placed upon a really organized basis. The almost universal method in vogue in years gone by, and in some plants at present, has been to appoint a man foreman and let him "sink or swim" to learn by his own mistakes. In this type of "breaking in" new foremen, each starts upon a lengthy voyage of discovery of the methods of handling men and production. The experience and ideas of the best foremen that have been through "the mill" are not passed on to them to any considerable extent. Learning foremanship in this manner stunts the progress made in the management of men and production. A long time to learn is required and incorrect methods are too frequently acquired for there is a lack of standards for comparison. This practicing upon or experimenting with men and production belongs to the past. Dissatisfaction among the men, high labor turnover, inferior quality and decreased quantity of production, waste and abuse of materials and equipment, etc., were, and are, often the results of "rule of thumb" methods of developing foremen.

In some plants more sensible methods were and are used for developing foremen. In others the foremen were gathered together to discuss current production problems. This was primarily a move towards securing improvement in the *work* and did not aim directly at improving the *foremen*. It aimed at the work where the results showed and not at the source of the trouble of the foreman personally. This has been a prevalent form of so-called foremanship training.

During the war, construction of new plants, expansion of old ones, green and partially green workmen that were sensitively independent and an abnormal demand for quantity production served to revolutionize foremanship methods. It also created many new and inexperienced foremen. Old methods of handling men and patriarchal production methods only aggravated this problem. The traditional foremanship training in rule-of-thumb methods had not equipped the veteran foremen for the task. Conditions had outstripped his training.

This crisis discovered, the importance of the foreman, the

need for a new type of foreman and an effective method of developing the veteran foreman and training the recruit foreman. A number of foremanship courses were developed and put into operation in a large number of industrial plants. There has been experience enough to afford sufficient evidence of the possibilities of foremanship training conducted on an organized basis.

In some of these plants certain definite results were secured. They were (1) improvement in the morale of the foremen and workmen; (2) more efficient handling of standard practice and the development of better production methods; (3) increased quantity and improved quality of production; (4) latent capabilities of men were discovered that aided in solving more intelligently the plant personnel problem; (5) increased intelligence in the supervisory force by personal development. These are not estimated results, but ones which were actually secured in several plants.

Industrial or commercial executives and others interested in this work will readily agree that foremanship courses that accomplish these results under unusual conditions will also have considerable value in developing executives during more settled industrial times.

The great variety of courses in use ranging from excellent to extremely doubtful makes the study of the problem and the presentation of the fundamentals of a successful program both necessary and opportune. The varying conditions between industrial organizations makes it extremely unwise for the Committee to attempt to lay down a definite and prescribed course which might serve to stand as a model for, in all probability, it is extremely unlikely that any given course would be presented without change in any two organizations. Variations will unquestionably occur even among different plants of a given company. Under such conditions the Committee has determined to present a number of aims, methods and outlines with the belief that those who are interested will produce a combination which will suit their own specific needs.

The Committee has felt that if the report should fulfill its purpose it should provide the following:

- a. Serve as a reference for industrial and commercial executives.

b. Present the possibilities of foremanship training and assist in its adoption by outlining content and method.

c. State fundamental principles leaving detail to be selected by the reader according to local plant conditions.

The report should be specifically valuable to those who have direct charge of the establishment of foremanship training activities. It should serve as a reference to plant executives who are considering the advisability of such courses in their organizations but who are searching for methods of procedure. It may assist public educational authorities in sensing the industrial viewpoint and it may convince those who are not now convinced that the organized training of foremen is an activity distinct in itself which is worthy of the most serious consideration by the higher executives of industry.

PART I

Instructions: To Define the Scope and Function of Foreman Training.

Scope

In attempting to define the scope of foreman training the term "Scope" must be considered from two entirely different angles. As considered from one angle, it raises the question of range in the organization. When considered from a second angle it involves range of instructional content. Instructional content will be more completely dealt with in part two of this report and will only be touched upon in part one to the extent that it enters into the problem of the scope of foreman training.

One cannot study the subject of foreman training without asking "What is 'Foreman Training'?" nor can he fail to agree that the phrase has been abused. Foreman training, which had its original conception in the development of foremen to better perform the duties that were peculiar to *foremanship*, has come to be, in many cases, the instruction of foremen in the duties and problems of everyone between himself and the Board of Directors. It has had its variations into the technical field and into the field of economics and of business history. It has included accounting and finance, personnel, administration, scientific management and many advanced and exceedingly complicated industrial functions. It has been the victim of enthusiasts who have attempted to raise foremanship to a pinnacle of fame second only to that of presidency of the League of Nations. Such people have, in their enthusiasm, lost sight of the fundamentals of the foreman's job. What was originally calculated to be development in a specific job has grown to include anything which might prove interesting to a group of unsuspecting, if not unsophisticated, foremen.

Your committee will be unable to define the scope of *Foreman Training*, for the present use of the title may indicate any relationship that exists with the body of men who hold the supervisory position which is immediately in contact with the working force. Apparently there is no limit to which it may not reach

out. There is a vast amount of instruction extremely broad in its scope which is included in the various courses which have come to the attention of this Committee. The breadth of this content is so great, and the range that it is intended to cover in the supervisory organization is so extreme that an attempt to define the scope of foreman training, when considered in its entirety, is nigh to an impossible task. If we will disregard Billy Sunday inspirational courses, as well as those which include industrial organization and business procedure, "from soup to nuts," and confine ourselves to the "brass tacks" type of *foremanship* training, which attempts to develop a group of men in the responsibilities that are peculiar and distinctively a part of the jobs they hold as foremen, and which do not go sky-rocketing to the more complex problems in present-day industrial management, we may then find it possible to define the scope and functions, not of foreman training, which may include anything and everything, but of *Foremanship Training* which applies to development in a specific job. In the further discussion of the scope and functions of foreman training, as occurring in Part One, the instructions will be considered in their more specific aspect; that of training in *Foremanship*.

It is, of course, recognized that a given industrial organization may have foremen who are so highly skilled in leadership and in job performance that they do not require additional assistance of this type, but that, on the contrary, the more general and inspirational type of instruction is desirable. There is no fault to find with the operation of such courses where the condition warrants. Further, it may be possible that foremen require neither the job development type of course nor the inspirational course, but are in need of development in the technique of the trade they are supervising. There is no criticism of these courses when they meet a specific need, but it is desired to point out that such courses are not *foremanship* training courses and that confusion is being caused by the misapplication of terms. It seems essential that a sharp line should be drawn between *foremanship courses*, which are job developmental, *foreman courses*, which are largely inspirational or general educational and *trade technical courses* which are purely trade extension courses in the trade that the foremen supervise. It will be very readily understood that

an attempt to define the scope of these three distinctly different types of courses under the one term, "Foreman Training," is an exceedingly difficult task.

Scope of Foremanship Training.

1. Its range in the organization.

Apparently those who have been most intimately connected with that which is distinctly training in *foremanship* have had in mind the group of positions in industrial organizations which have closest contact with the actual working or non-supervisory force. It was intended to include the lower supervisory positions of the industrial staff. These men have variously been called pushers, straw bosses, gang leaders, sub-foremen, assistant foremen, and foremen, the title varying according to the industry. Often it is found that the foreman in one organization is equivalent to a superintendent in another organization. Such courses have included head storekeepers, tool department chiefs, and others of the non-productive or service staffs. It is safe to say, however, that foremanship training is most applicable to that group of men whom we regard strictly as supervisors of the production force and may include supervisors of forces which, although non-production, render a distinct and closely allied service to production departments as illustrated in the case of storeroom and tool room heads. In a rough way it may be said to include supervisors who have from twelve up to perhaps one hundred men under their immediate direction.

It is typical of courses which deal specifically with *foremanship* that the very specialization of their content limits them to the kind of positions that are mentioned above. On the other hand, the broader and more general *foreman* training courses have such a wide range of content that their scope in the organization is practically unlimited.

It is generally understood that the range of foremanship training in the organization is about as outlined above. It is essential to point out that scope will be entirely dependent upon aim, and aim will be entirely an expression of the result that is desired through activities of this type. If the aim is purely inspirational, general educational or trade technical, the scope will

be much greater than if the aim is to develop better management and supervision in the carrying out of the foremanship functions.

Without an established aim, scope may be unlimited; but it is perfectly apparent that once the aim is established and scope is determined, the best training results will be produced when the activities are kept within the bounds that are thereby outlined.

2. Range in content.

Much has already been said about the extremes to which instructional content has been built up. It is only desirable to point out here that when strictly *foremanship* training is considered the content must be limited to the problems of the position for which training is being presented. This will be true regardless of whether it is the intention to develop new foremen or to improve men who are already holding the position, be they veterans or novices.

In the specific type of training which we are here emphasizing it is reasonable to assume that the content would be set up according to the jobs that occur in the trade for which this training is considered—i.e., the *foremanship* trade. This is equally true of training in other trades. We judge mechanics in any given trade upon their ability to successfully accomplish jobs or assignments of work in that trade. If we were to train all-around carpenters, our instructional content would be prepared in terms of the different kinds of jobs that the carpenter was supposed to completely perform. This content would thus be set up in terms of, and limited by, the jobs in that trade.

In judging foremen we use relatively the same basis of comparison that we use in judging mechanics: He is a good or a poor foreman according to the degree to which he successfully performs the responsibilities or jobs which are included in foremanship. If we are to develop better foremanship, it seems logical that the training content shall be set up in terms of, and limited by, the jobs or assignments of work that constitute the foremanship trade.

Again, it is emphasized that the scope or range of content will depend entirely upon the aim which is established. If the aim is job developmental, scope of content will be limited. If

the aim is inspirational, general educational or trade technical, the range is increased almost without limitation. We would further emphasize that, equally, in the more general courses there should be a greater coordination between scope and aim. It is not uncommon to find outlines which include all three functions just mentioned. If successful results are to be produced, we must first establish our target and then pace off an adequate distance that will constitute a real test of marksmanship, having as our limitations the firing power of the gun, the kind of ammunition and the skill of the marksman.

Function of Foremanship Training

Again, no decision can be given without considering the subdivision into "foreman" training and "foremanship" training. The results produced by training activities of each type must be an indication of the function they are supposed to perform, these results will vary from the very general to the absolutely specific.

In response to inquiry, some people have said that "we are getting a lot of good out of this." Apparently in such cases the function of training has been to produce "*good*." One might employ an evangelist for the same purpose. Others have reported a better acquaintanceship with the manufactured product; this is more specific but education of this type would apply to many in the organization who hold positions either above or below that of the foremen. Others have indicated an inspirational objective and corresponding result. A good cheer leader, an advertising specialist or any other genuine optimist might produce this result not only among foremen but among all others in the organization. Others have reported an improvement in special trade technical knowledge. This could have been obtained in a public technical high school by workmen, foremen, superintendents, general managers or even by people not associated with the trade or industry. In view of this the function of foreman training is not singular, it is plural and apparently as varied as the coats of the chameleon. We have only given a few illustrations of its extreme versatility.

There is no particular fault to be found with this variety if the functions express the needs of the organization. Functions of the above character, however, immediately associate the train-

ing activity with the broad and very general term "foreman training" and usually permits the presentation of the course to men holding a wide variety of positions in the organization.

The function of any training plan is to produce more efficient performance. Undoubtedly any of the above will make a greater or less contribution to this result. If we train in the trades, our function may be to produce greater manipulative skill or increased technical knowledge, according to the need. During the war period the manipulative side, often highly specialized, was emphasized and scant attention was given to the technical side; this because the demand for production was exceedingly urgent and far more important than the need for developing mechanics who had both the manipulative and trade technical requirements. The function of the training was to produce manipulative skill as rapidly as possible. Institutions are scattered throughout the country which specialize in technical knowledge, they almost entirely disregard the manipulative side, for their function is centered around technique. Our Americanization activities have a function which is aptly described in their title. One would not enter a law school with the expectation of studying medicine, nor would one enroll in a course in accountancy with the expectation of becoming a production foreman. Why, then, is it any more logical to include the problems of accounting, finance, transportation, etc., in a course prepared for foremen?

All of the afore-mentioned courses function in producing higher efficiency in the field which is characterized by their title. Let us then avoid confusion by cutting our garment according to its function and to fit the wearer.

Foreman training must imply better foremanship; this is the result that it must produce. It is training for, or in, foremanship. It must produce improvement in the performance of a given job. It must be designed for a specific group of men. It must suit their requirements. It must not belie or wander away from its title. It must do as it says and stand under its own flag. It must have as its function the development of more intelligent performance of the responsibilities or jobs which classify a given position in industry. It must develop a better understanding of the relationship of these responsibilities, and greater

quantitative realization of them. It must center itself around the foreman's actual and not his imagined problems. It must disassociate itself from the ramifications of the entire organization and concern itself with the performance peculiar to the given position from which it takes its name.

The Term "Training"

Exceptions have been taken to the application of the word "training" to this type of work and in substitution therefor has been suggested the phrases "Foreman" or "Foremanship *Forums*," "Foremanship *Development Courses*," "Foreman *Conferences*," etc. The exceptions are taken on the basis that, to a degree, an insult is offered to the foremen when *training* in his position is mentioned. This stand is more or less unwarranted. We have no hesitancy in speaking of "Executive Training" nor do we quibble over the application of the term "training" when we develop higher skill in the trades. It is further apparent that most foremen do not hesitate to grasp an opportunity which will improve them in the performance of their work, nor are they loathe to admit that there is room for improvement and, for the most part, agree that this improvement must come through some sort of training process. The insult is more imagined than actual.

Admittedly, regardless of the name that is applied, the purpose is improved efficiency pure and simple. This cannot be gained without the utilization of the training function. It seems, therefore, that there is no real cause for applying to this activity any other phrase or title than that which specifically designates its actual function.

PART 2

Instructions: To establish aim and frame content.

The Committee has found that a large number of people fail to make any distinction between Foremen Training and Foremanship Training. Those who have overlooked this primary distinction are inclined to include with the instruction given under whichever of the two titles they happen to apply, all of that which should be given under both subjects. The Committee therefore thinks it best to begin by defining these two terms after which the aim of each will be stated and the content to accomplish the two aims will be outlined.

Aims

Foremen Training.

The Committee defines Foremen Training as any organized instruction which might be given to a group of members of any Industrial or Commercial Organization who bear the title of Foremen or any other title equivalent thereto.

From this definition it will be seen that the committee considers the field of Foremen Training to be almost unlimited in its extent. The Committee feels that the word "training" implies a secondary process in the development of which instruction is the first step. In the group of courses which the Committee is including under the subdivision of Foreman Training, the application of a true training process is seldom obtained for the instruction is characteristically general or at least not sufficiently specific to permit of an effective follow-up or training process which would result in the formation of desired habits. Where the activities are of this type the question is raised as to the advisability of changing the phrase to Foreman Instruction.

The aim of Foreman Instruction may be very generally stated as the more intimate acquaintance of foremen and others holding similar positions in any organization with the various general or departmental policies, operating methods, processes and general aims of that business or any portion of it. There is the possibility of greater specialization of aim, but such specialized aims, in this type of work, will usually group themselves under the more general aim above stated.

Instruction of this type may be either inspirational, general educational or may be specifically trade educational. Usually the course itself may be given to many others in the organization who are both above and below the range of foremen. Such courses usually only justify their title by the fact that they happen to be given to a group of foremen. In other words, there is little about the course itself which warrants the title.

Foremanship Training.

It is felt that the most careful consideration will show that this term is advisably used in this connection, because the training of foremen in the job of foremanship certainly cannot be considered of any great value if it stops at simple instruction without any follow-up to see that the foremen incorporate the instruction into the daily conduct of their responsibilities. This follow-up is really the training, and to be most effective the foreman should be offered some method for measuring the change in the operation of his department or section, that results from the application of his instruction to his job.

All authorities are agreed upon the extreme desirability of assigning definite foremanship problems to be worked out by the pupils during the progress of a Foremanship Training Course.

It has been decided that Foremanship Training should have as its aim the instruction and training of foremen to better understand and perform their foremanship responsibilities. It has been further agreed that the related technical knowledge in the trade supervised, while a necessary adjunct to true foremanship, should not be classified as strictly Foremanship Training, but it is more properly the work of the committee on technical education. The committee is, in the majority, agreed that full technical knowledge of the trade supervised is a prerequisite of the supervisor's position; extension of that knowledge is the work of trade extension classes in the trade itself and is not Foremanship Training.

Content

Upon the basis of these definitions the Committee has divided the following section of the report covering instructional content into two fundamental divisions:

1. Foreman Training, which includes outlines, experiences and comments of a number of different agencies who are conducting the same general courses. These are again grouped somewhat as follows:

1. Outside agencies such as colleges, Y. M. C. A.'s, commercial agencies, etc., which are somewhat divorced from industry.
2. Foremen's clubs.
3. Combined agencies.
4. Technical courses.
5. Purely production conferences.

2. Foremanship Training, which will include outlines, experiences and comments of various companies who have developed courses which are characteristically analytical of the foreman's job and its functioning. These courses are distinctive in that they represent an inventory of the foreman's daily activities. While there is an inspirational and an educational value gained from them and woven throughout their presentation, the inspirational objective is secondary, for the primary aim is to develop a better acquaintanceship and understanding of job requirements.

The Committee feels that it is extremely unwise to express any opinion as to the relative value of the two general types of courses here presented. It is sufficient to say that correspondence which has been received from members of the Association indicates that there is a decided inclination toward courses which represent an analysis of the foreman's job responsibilities and are built around a specific job; in other words, the more general courses are becoming less popular, with sentiment developing in favor of the specific courses.

Foreman Training

The courses grouped under this heading have one or more of the following characteristics:

1. They are not confined to foremen, but have a much wider organizational scope.
2. They are purely instructional and are characterized by lectures, by staff or outside experts, on special problems.
3. They are purely inspirational.

Division of United States of America



4. They are general educational.
5. They are technical courses in the trade supervised.
6. They inform of company products.

Outside Agencies

Y. M. C. A. COURSE

The following outline was received from Mr. A. H. Myers, Educational and Industrial Secretary of the Y. M. C. A., Petersburg, Va. He states as follows:

"Most of our foremen are engaged in trunk and bag manufacture, which requires little specialized knowledge. Consequently, our meetings aim to cultivate administrative, rather than technical skill, and, as you suggest, have an inspirational and social objective."

American School of Correspondence

This Topical Outline is being expanded by the authors so that several of the more important subjects now covered by one lesson will require two or more texts for full treatment. When completed, the course will comprise approximately forty lessons.

TOPICAL OUTLINE OF BETTER FOREMANSHIP

Lesson 1 *The Key Man in Industry*

The Foreman's Place in Industry

- Foremanship an essential part of management
- The future of foremanship
- Responsibility increases with industrial concentration

The Post of Foremanship

- The interpreter between directorate and workers
- The responsible overseer of production
- The responsible leader of his men

The Duties of Foremanship

- Production maintenance—factors and methods
- Cost control—use of cost records
- Force maintenance—securing and conserving competent workers

Purpose and Methods of This Course

- A high-school course for foremen
- Reading lessons, quiz questions, examination
- The three-position idea of advancement

Lesson 2 *The Planning of Work*

The Necessity of Planning

- Three functions of foremanship
- Practical dreamers
- Planning is progressive

Planning Is a Process in Industry

- Elements of planning
- General executive's part in planning
- Superintendent's part in planning
- The foreman and planning—amount of knowledge necessary—planning meets schedules

Routing of Work

- Construction of buildings—types in use
- Development of progression of process—types of progression in use
- Mechanical routing devices—conveyors, belts, trucks, etc.
- Continuous record keeping—permanent inventory
- Routing boards and schedules

Job Analysis

- As an aid in effective hiring
- As an aid in effective training
- As an aid in simplification of operations
- How to make a job analysis
- Job analysis forms

Forms Helpful to Foreman

- Reason for records
- Daily flow sheet
- Comparative production report

Graphic Presentation of Facts

- Block method of comparison
- Use of symbols
- Graphic curve
- Practical value of graphs

Lesson 3*The Supervision of Work***Organizing Task of Supervision**

- Production depends on supervision
- Quality of goods depends on supervision
- Speed of work depends on supervision
- Functionalizing foreman's task
- Department organization—assigning work to assistants—human values indispensable

Requisition and Maintenance of Supplies

- Factory storeroom
- Requisition in advance
- Department stock keeping
- Use of improved equipment

Assigning Tasks

- Sizing up workers' ability
- Specialization of work
- Relating task to general operations

Keeping Tabs on Production

- Finding out reasons for let-down
- Physical conditions important
- Relation of wages to production—scientific method of determining wages—explaining wage system

Inspection

- Comparison of different methods—not spying, but helpful supervision—self-inspection
- Necessity of cooperation—problems of general management—development of pride in work

Lesson 4 *The Objects of Production***Industry Primarily for Use**

- The knitting of the world
- The world demand for improved and standard articles
- Demand fed as well as met by centralized production

Necessity for Systematized Centralized Effort

- In production—to increase volume and reduce costs
- In management—to maintain effective labor force, eliminate waste (labor turnover, strikes, etc.), and promote co-operative zeal
- In finance—to maintain stable credit and sound value basis
- In politics—to further public "efficiency" that remains democratic—to develop a more conscious American citizenship
- In community action—to provide adequately for social needs of all—to develop common rather than class interests

Industrial Leaders Must Lead

- Within the plant as good managers
- Outside the plant as good citizens
- Foremen are part of the management and must be industrial leaders in all these directions

The Rise of Factory Methods

- Effect on the work—quantity, production, etc.

Effect on the workers—specialization, monotony, etc.
 Effect on industry—concentration of management, etc.
 Effect on social life—concentration of city living, etc.
 Effect on industrial relationship—loss of unity of interest

Lesson 5 *Factors of Business—Finance*

Finance

Arrangement of credits—the foundation of modern enterprise

Cost accounting

Explanation of overhead—plant, sales, administration

Recording overhead

Indirect and direct production charges

Budget making

Necessity for

Methods of

Maintenance of stable credit in banks

Cash account, statements, loans, investments

The work of capital

What it is, how secured, how retained, how paid for

Necessity for interest, depreciation and sinking funds

What they are, how secured, how accounted for

Relation of Finance to Industrial Relations

Making production possible

The division of earnings

Meeting fixed charges, insurance for futures, and profits

Foremanship and Finance

Interpreting policies to workers

Assisting in sound financing through good management in their own shops

Lesson 6 *Factors of Business—Markets*

Purchase

The constant study of supply markets

The search for new supply sources and better equipment

Buying wholesale and storing

Keeping pace with estimates

Transportation

- Facilities between plants and markets
- Facilities between yards and transportation lines
- Facilities within plant
- Freight rates and differentials
- Methods of packing and shipping

Interdependence of Markets

- Uncertainty of supplies
 - Crop failures, strikes, etc.
 - Change in styles or consumers' tastes

The Effect on Industrial Relations and Foremanship**Lesson 7 *Factors of Business—Sales*****Estimating Consumption**

- Study of markets, styles, etc.
- Judging plant capacity
- Effect of competition

Stimulating Demand

- Advertising
- Sales promotion

Improvement in Product

- Making product more attractive
- Adopting product to new demands
- Reaching new territories

Sales Policy

- Sales schools
- Necessity of training in factory methods and output
- Necessity of reporting back to factory opinion of purchasers

The Effect on Foremanship**Lesson 8 *Factors of Business—Engineering*****Plant and Equipment**

- Intensive study of production needs
- Location of plant
- Erection of plant
 - Arrangement for power, light, heat, etc.
 - Arrangement for work progression

The necessity of large capital layout before any return
Provision for plant expansion

Installation and Maintenance

Machine equipment and repair
Depreciation of equipment—foreman's responsibility for
Continuity of power and ventilation
Adequate facilities for storage and stock
Standards of sanitation, lighting, heating, etc.

Provision of Mechanical Safeguards

Standards for drawing off poisonous fumes, dust, etc.
Standards of protection for gears, belts, mills, etc.
Standards for safeguarding electrical connections, etc.
Standards for guaranteeing proper water and sewer connections

Standards for controlling power and machine operation in time of accident

Improving Methods and Processes

Routing work as part of installation and maintenance
Devising and adapting new machines
Studying and revising operations

The Effect on Foremanship

Lesson 9 *Factors of Business—Organization*

Types

Straight line	Functional
Line and staff	Administrative

Executive Leadership Always Necessary for

Group activity
Direction of others
Delegation of authority
Administering responsibility
Assumption of risk
Development of initiative

Standards

Line of authority must be clear
Must make quick and responsible action possible

Must bring to bear on each problem all the knowledge of the entire group

Overhead supervision reduced to minimum

Methods

Various forms of organization—charts

Relation and interdependence of executives and operatives

The Function of Management

Neither capital nor labor, but responsible to both

The controlling factor of economic conditions and relations

The guidance of production and distribution

The coordinator of lines of effort into harmonious progress

The keeper of the keys and of the faith

The Effect on Foremanship

Lesson 10 *Factors of Business—Industrial Relations*

The Development of This Newly Recognized Function

In the country

In the shop

Its Constituent Factors

Correlation under employment, safety, health and service

The Necessity of Coordination of Such Effort

Responsibility direct to management

Responsibility direct to workers

The Objectives of Such Work

Not paternalism

Not to hold men down

Not charity

Education for greater productivity

Protection for greater efficiency

Assistance for greater loyalty

Good will as an economic asset

The Necessity for a Labor Program

Must be comprehensive

Must be economically sound

Must be practical

Must meet genuine need

Must arouse genuine cooperation
Must be judged by results

The Effect on the Foreman, and His Part Therein

Lesson 11 *Securing Competent Force*

Centralizing Employment

Reasons for
Labor turnover

Recruiting

Stealing labor—continual jockeying of rates—false inducements

Advertising and scouting
Private and public agencies
Necessity of protecting community
Value of community cooperation and agreement
Advantages of transfer system

Hiring

Methods in use
Trained interviewing
Trade and psychological tests
Physical examination
Limited tryout
References—society memberships

Forms and Reports

Necessity for simplicity
Methods of requisitioning by and acceptance by foremen
Filing and cross filing

Interrelationship with Foremanship

Lesson 12 *Training Competent Force*

The Need for Training

Breakdown of the apprentice system
Danger as well as value of the specialized worker

The Kinds of Training

Apprenticeship
Craftmanship

Vocational education
 Elementary education
 Social education

Methods of training
 Vestibule schools
 Continuation schools
 Night schools
 Instruction on the job
 Flying squadron

Objects of Training
 Opportunity for self-development in efficiency
 Testing ground for those with latent capacities
 Melting pot of ideas
 School of Americanism
 Arousing creative instinct
 Stimulating ambition

Interrelationship with Foremanship

Lesson 13 *Maintaining Competent Force—Working Conditions*

Providing Good Working Conditions

Light, heat, sanitation
 Lavatory and locker facilities
 Fire protection
 Accident safeguards

Providing Attractive Service Features

Assistance in home finding—dormitories, etc.
 Lunchrooms—cooperative stores, etc.
 Transportation facilities
 Recreation facilities

Providing Proper Tools and a Steady Supply of Work

Methods of Administering Standards of Such Features

Interrelationship with Foremen

Lesson 14 *Maintaining Competent Force—Hours and Wages*

Hours

Length of day	} Dependent on nature of work
Rest periods	
Time of shifts	

Wages

- Relation of wages and earnings
- Relation of wages and company expenditure—labor cost
- Relation of wages and company income

Methods of Computing Wages

- Day work—piece work—bonus and premiums
- Learners' rates
- Advance by merit, service, etc.
- Basic standard—cost of living—price of unit output—all that the traffic will bear—competitive market rates

Methods of Payment

- Period and place of payment
- Check-up of payroll

Interrelationship with Foremen**Lesson 15 *Maintaining Competent Force—Indirect Compensation*****Social Insurance—Methods and Types**

- Old age
- Sickness and accident
- Life
- Unemployment

Profit Sharing

- Types in use
- Economic fallacies of generalities

Mutual Benefit Associations**Types**

- Objective—insurance, housing, cooperative buying, etc.—athletics, fellowship, thrift, etc.
- Interdependence of Factory, Community and State Regulations
- Interrelationship with Foremen

Lesson 16 *Maintaining Competent Force—Working Relations***Types of Organization**

- Individual bargaining
- Collective bargaining—shop committees; union agreement

Standards for Determining Choice

- The search for democratic cooperative management
- The necessity of determining real needs and desires of men
- The danger of control "by might"
- The gradual development of a fundamental policy

Labor Organizations

- A. F. of L., Amalgamated, I. W. W., Labor Party
- Sketch of history, purposes and methods

Industrial Organization

- American cooperation, sovietism, socialism
- Sketch of history, purposes and methods
- Necessity of separating the wheat from the chaff
- Necessity of fighting out economic fallacies, and getting back to essential of sound, sane principles of production

The Necessity Always of Good Management

- Production on large scale here to stay
- Executive direction always, therefore, essential

The Relation of World Movements to Production

Interrelationship with Foremen

Lesson 17

Working with Men

Executive Leadership

Dependent upon

- Knowledge of human nature
- Ability to win and hold confidence of others
- Ability to direct and judge the work of others
- Common sense, common decency, common squareness, common modesty

Developed by

- Self-knowledge and training
- Mixing with all sorts and conditions of men
- Self-respect and respect for others—rights and duties of all

Studying Men

- Each an individual
- Effect of early environment and training
- Effect of habit on character

Methods of grouping characteristics—helpful but not scientific

Handling Men

Qualities needed—patience, self-control, etc.

Willingness to learn as well as teach

Tact, courtesy and judgment, etc.

Development of Individual Capacities

Often latent—methods of discovery and of fostering

Objectives—“creative instinct,” ambition, etc.

The Foreman's Duty and Privilege

Lesson 18 *Working with Foreigners*

The Immigrant a Special Problem

Handicapped by ignorance of language and custom

Naturally distrustful of any but their own people

Immigrant's outlook on America—purpose in coming—general experience

Immigrants in America

Flow of immigration

National and racial characteristics

Americanization

Its necessity

Its objectives

Methods in use and possible

The Foreman's Duty and Privilege

Lesson 19 *Working with Men—the Daily Routine*

Introducing New Workers

Meeting men

Acquainting them with work and force

Encouraging Workers

Suggestions—systems in use

Stimulating rivalry with bogeys and groups

Following Up Workers

Tardiness—methods in use for checking

Absenteeism—methods in use for checking

Finding Fault with Workers

- Real fault with their work
- Corrective, constructive methods
- Fallacy of fines and lectures

Fitting Men to Jobs

- Matching man-analysis with job-analysis
- Transferring men—methods in use
- Promoting men—methods in use

Fitting Jobs to Men

- Arrangements for sex, strength, etc.
- Special arrangements for handicapped, etc.

Firing Men

- Necessity of centralizing power over discharge
- Discharge the last step
- Cost of labor turnover—its importance

Lesson 20 *Working with Men—Getting it Across***Mixing with the Men**

- Inside hours—methods in use
- Outside hours—methods in use

Giving the Men the Picture of the Plant

- Necessity of the broader outlook
- Relation of each task to whole process
- Methods in use and possible

Exchanging Ideas and Experiences with Other Foremen

- Foremen's clubs
- Methods and types in use

Working with the Management

- Making suggestions
- Carrying out orders
- Rotating foremen between departments
- Bringing foremen into employment department temporarily

Lesson 21 *The Wizardry of Industry***The Romance of Transformation**

- From raw materials to finished product
- From all corners of the world to every home

The Romance of Development

History of some of our great industries
 The pioneering spirit—imagination, daring, and persistence
 Personality the dominating force

The Romance of Production

The factory as a human community
 The incessant drive to mechanize laborious work
 The constant search for brains
 The eternal hunt for new ways to satisfy human needs

Economic Laws versus Dynamic Leadership

Enriching the world by improving human application to material things

Making two blades of grass grow where one grew before

Laws are not barriers but instruments for further progress

The Duty and Privilege of the Foreman**Lesson 22 *Measuring-Sticks in Industry*****The Thermometer on Investment**

Every effort must pay for itself, and a little bit more
 The necessity, therefore, of keeping accurate records

Paper Follow-up of Production

Forms and records in use and possible
 Systems of filing in use and possible
 The compiling and interpreting of data
 Methods of statistical computation
 Fallacies of averages
 Dangers in generalizations

Paper Follow-up of Employees

Recording output
 Forms in use and possible
 Collating employment record
 Forms in use and possible
 Value of keeping all forms together
 Reviewing records
 As basis of transfer, promotions, and discharges

The Interrelationship with Foremen

Lesson 23 *Industry as a Community Unit*

The Growing Interest in Government Supervision

Rise of social legislation

Factory inspection, workmen's compensation, minimum wages, maximum hours, child labor

Development of governmental agencies

Employment offices, industrial commissions, vocational schools, etc.

Industry as a Social Laboratory

Working out pioneer experiments in social organization

Safety, health, and educational work—housing, thrift, etc.

Gradual turning over such activities to community

The necessary education of the public

Instilling the ideas of social responsibility as well as social privileges

Industry as a Civic Center

Getting men to work together teaches them to live together

Breaking down race and other prejudices makes for Americanism

The Social Responsibilities of Industry, the Community, and the State

Relation of wages to living standards

Relation of living standards to wages

Among these three there must be no autocratic dominance

Interrelationship with Foremanship

Lesson 24 *The Future of Industry*

The Present World Situation

Results of the war—negative

Loss of man-power and materials

Restriction of capital and disturbance of credits

Diversion of labor

Results of the war—positive

Increase in inventions, production, and transportation

Stimulus to cooperative effort

Closer knitting together of world markets and world standards

The Crying Need for Production

- To supply the world's needs
- To regularize employment
- To stabilize international credit and finance
- To reduce the high cost of living
- To eliminate poverty and industrial anarchy

Ways to Meet This Need

The continuance of governmental supervision to guarantee fairness

The application of sound economics

Back to a fair day's wage for a fair day's work

The elimination by public opinion of wasteful strikes, lockouts, etc.

The better organization of industry

Greater efficiency of production and distribution of goods

Sounder financing

Better leadership

Greater cooperation

The New Attitude of Industry

On the part of

Labor

Capital

The consuming public

The Effect on Foremanship

**Lesson 25 *The Better Foreman—Factors of a
Plant Survey***

What Is Your Organization Plan

Methods of charting it

Raw Materials

What are they

Where do they come from, etc.

Processes

Tracing the development of the manufacturing process

Production Systems

How work progresses

How supervised and recorded

How maintained

Finance

How is company financed—bonds and stocks, notes, etc.

How are accounts divided

How is overhead figured

How are costs assessed

How is payroll made-up

Engineering

How is plant constructed

How is lighting, heating, and ventilation

How is machinery installed and repaired

How is work routed

How is power secured and maintained

Markets

How are supplies secured and maintained

How are goods shipped in and out of plant

How are emergency needs supplied

Sales

How are goods advertised

How is demand estimated and competition met

How are salesmen trained

How are bids figured

How is good will earned

How is contact kept with production departments

Industrial Relations

How are new workers secured

How are they hired and trained

How protected from accident, sickness, old age, etc.

How regular is the work

How are wages paid—on what basis

What other compensation is offered

How are men transferred and promoted

How and why discharged

What service is offered employees—on what basis

What employment records are made

How kept

What use is made of them

How far are employees encouraged to do better work
What, if any, is the type of organization among them
How do they size up
How is the company spirit
What is wrong

Lesson 26 *The Better Foreman—Factors of a Sound Industrial Program*

Physical

- Work must be regularized
- Equipment must be adequate
- Processes must be efficient
- Plant must be adequate
- Company must be soundly financed
- Company must be efficiently organized
- Product must keep pace with demand
- Price must be fair
- Service to customers must be of highest order

Human Labor Policy Must be Progressive, Positive, Principled

- Pay all that the men earn and help them earn all they can
- Hire men intelligently for the job
- Make the job intelligent for the worker
- Give all opportunity for further training
- Promote from within the ranks and treat all squarely
- Recognize those who are truly representative
- Discard all prejudices
- Provide true service
- Promote cooperation

Public

ObeY all laws
Make all legal standards for safety and health the minimum basis
Set an example to the community
Give fullest publicity to all factors of the business

Lesson 27 *The Better Foreman*

The Rising Importance of Foremanship

Summary

The Future of Management**Summary****The Necessity of Rising to the Occasion****Continued study and application****The Opportunity Afforded****For service and remuneration****For responsibility and self-development****For power****Bibliography of Helpful Handbooks****University of Pennsylvania**

"Weekly conferences were held in Philadelphia during the last six months. The plan was to have a group of foremen, about 500 in number, meet in the auditorium of Central High School on Wednesday evenings. One of the lectures, as indicated in the list, was given, covering thirty-five or forty-five minutes. The audience was then divided into groups, each one of which met in a different room in the high school building. In each room a discussion leader took charge of the group and together they worked over the subjects of the lecture for that evening. A digest of each lecture was mimeographed and distributed to all of the foremen a week before each meeting. The group was so large that we were not able to get sufficient discussion leaders to make possible even reasonable size groups for the second part of the evening's work. Notwithstanding all of the disadvantages that were bound to grow out of the large group and our lack of experience there were tremendous returns to the plants where the foremen were employed. Definite reports of these advantages were presented from time to time to the secretary of the foremen training group."

UNIVERSITY OF PENNSYLVANIA
FOREMEN TRAINING COURSE

LECTURES

1920-1921

1. The Turnover of Labor.....Joseph H. Willits
2. More Attention to Problems of Personnel.....J. H. Willits
3. The Start and Early Development of
Scientific ManagementJ. H. Willits
4. Recent Development of Management Ideas.....R. H. Lansburgh
5. Leadership.....R. H. Lansburgh
6. Hiring MenR. R. Ray
7. Physical Working Conditions.....A. H. Williams
8. Standards in Management.....H. W. Sheldon
9. Time and Motion Study.....Frank Galbraith
10. Production Control.....Keppele Hall
11. Operating the Production Department
in the Factory.....Wm. D. Plund
12. Training the Worker.....George F. Barber
13. The Foreman as a Teacher.....A. Roberts
14. The Human Side of the Problem.....John M. Williams
15. Square DealHarry M. Clark
16. Industrial Health.....Dr. M. R. Taylor
17. Maintaining Discipline.....George F. Barber
18. Collective BargainingA. A. Mitten
19. Quality Production with Quantity.....George F. Barber

John B. Stetson Co.

They report upon this course as follows:

"This past season quite a number of our foremen took the course in Foremanship Training planned by the Philadelphia Association for the Discussion of Employment Problems.

"The course covered twenty-one lectures. The classes met every Wednesday evening, the first hour of the evening being devoted to a lecture, and then the classes separated into smaller groups and discussion leaders and quizz leaders conducted these smaller groups. From the reports that we have had from the men they seem to appreciate the conduct of this course very much."

Companies Utilizing Outside Agencies

In addition to those who have already been mentioned, the following have conducted foremanship training work in conjunction with such agencies as the Business Training Corporation, Y. M. C. A., etc. Varying degrees of satisfaction are reported. Some have been very enthusiastic over the results produced, others have indicated the intention of developing their own courses in the future.

Mesta Machine Company
Hoover Suction Sweeper Company
Durham Hosiery Mills
Shepard Electric Crane and Hoist Company
Swift & Company
A. M. Byers Company

Foremen's Clubs

From the educational viewpoint the instruction usually given is decidedly general. Specific alliance to the foreman's daily work is questionable. The greatest good must be found in the creation of enthusiasm and the possible development of a broader viewpoint. Upon this work several concerns report as follows:

Washburn-Crosby Co.

"At the present time we are going through a course in personal and business efficiency which is attended by a portion of our foremen. Sorry to say that there are not enough enrolled in this class. This course has been fairly interesting and has extended over a period of sixteen weeks.

"A great many of our foremen and superintendents are also members of the Minneapolis Manufacturers' Club. We enjoy very many healthful lectures on different topics about once a week. These lectures are always well attended and are exceedingly instructive."

Atlantic Refining Co.

"We are conducting no regular courses for training our plant men, although we are still discussing such a proposition. We

have recently organized a Foremen's Club which has as its primary object the promotion of social fellowship and acquaintance among our minor executives. We are planning to use this organization as a means of disseminating knowledge of our various products and operations among such of our men as would be interested."

Schwarzenbach-Huber Co.

"In one mill we have availed ourselves of a published course on Foremanship Training, in other mills we have tried Foremen's Councils with regular meetings to discuss problems and to express policies, in other mills we have outlined a course of advancement that will lead young people up to the position of foreman."

Dodge Manufacturing Co.

"Our efforts at Foremanship Training consists of a Foremen's Club, meeting every other week at the noon hour. The Corporation furnishes the lunch, which is served from the cafeteria in a separate room, called the foremen's room. The foremen have discussions and addresses at each meeting on subjects in which they are interested."

Armour and Company

"We organized Armour Plant Executive Clubs at each of our plants, these organizations being made up mostly of foremen and other men in supervisory positions in the plant.

"Aside from social activities, the program of the Plant Executive Organization includes various educational features, such as talks on safety, operations, sales, cooperation, etc.

"We have no systematic foreman's training course nor do we train apprentices for the skilled and semi-skilled jobs, as it has always been our custom to select men for the skilled jobs from the ranks. We find this a very satisfactory method inasmuch as most of the jobs in the plants are highly specialized and it takes only a comparatively short time to break men in at such jobs, provided, of course, they are mentally and physically suited to the work."

Combined Club and Plant Meetings—National Cash Register Company

We furnish our foremen with up-to-date literature, and have weekly meetings at which all foremen and sub-foremen, together with the executives of the Company, meet and discuss the problems met with during the previous week.

We also have monthly meetings of what is known as the Advance Club, composed of foremen, heads of departments and job-foremen. This club meets after working hours, on their own time, the Company furnishing a luncheon. At these meetings, lectures on various subjects affecting some phase of our work are given by men who are experts in their field. Also different phases of our work in the various divisions of our plant are brought out through practical demonstrations, playlets, etc.

Each Supervisor holds weekly meetings of his foremen, and the foremen in turn with the job-foremen, at which meetings the various angles of the business are discussed, and the immediate problems of the various departments are covered.

Up to the present time we have not cooperated with the Federal, State, or other agencies in carrying on any foremanship training work. We have, however, under consideration starting a foremen's training class, operated under the Smith-Hughes Law, with an instructor from Cincinnati University. Whether we will definitely decide upon doing this, we are not in a position to state at this time.

For many years past, our Company has taken advance steps in giving our foremen every opportunity to improve themselves through meetings and educational trips to various cities, visiting various manufacturing plants. During the year 1920, each foreman and job-foreman in our plant was given a ten-days' educational trip, visiting Boston, New York, Philadelphia, Washington and various eastern cities, and many splendid ideas were brought back by them, which were put to use in our plant."

Dennison Manufacturing Co.

The Dennison Manufacturing Company maintains no organized course of Foremanship Training as such, nor does it have any course which is held in conjunction with federal, state or

other agencies. Through various means, however, it does provide for training of its foremen, and it is felt that the results obtained are better than any stereotyped course could possibly hope to attain.

1. Industrial Management Classes.

Each year a class is formed of foremen and other sub-executives for the purpose of studying problems in industrial management. The work of the class includes lectures, reading and questions. The lectures are given by various executives of the plant on the subjects in which there are specialists. These meetings take place once a week, and the usual course lasts about three months. The course itself varies to meet conditions, and the subjects discussed depend to some extent upon the problems which are most vital at the time.

During the past year two groups were formed; one for the purpose of studying personnel problems, the other for the study of planning. In these meetings discussion is stimulated as far as possible, and it has been found that the "Case System" of conducting classes has been the most successful. By giving our cases in advance, which are later discussed in class, we have found that discussion has been stimulated and that the meetings have become more valuable generally.

2. Management Meetings.

Each month all members of the Management Group, which includes all executives above the rank of acting foreman, meet together. At these meetings, which are preceded by a supper served in the company lunch room, problems of general interest and of particular significance to the Dennison Manufacturing Company are discussed. It is planned to alternate outside speakers with speakers on subjects distinctly of company interest, and among those who have spoken during the past year are such men as Whiting Williams, E. A. Filene, Henry Metcalf and E. H. Gay.

Such meetings have not only distinctly educational advantages but also do much to promote the get-together spirit which is so necessary among the members of the Management Group.

3. *Division Meetings.*

Each month all foremen of each division of the plant meet together under their division superintendent to discuss problems confronting them. At these meetings it is arranged to have different foremen take charge in order that they may get the value of handling such groups and therefore gain confidence. We have found that the educational value of these meetings has been very great.

4. *Committee Work.*

Under our Employees' Cooperative Plan sub-committees composed half of the Management and half of the Works Committee members are appointed to report on various matters which come up. A policy has been maintained of appointing foremen to membership on these committees rather than limiting the membership to higher executives. We feel that the training which comes from such meetings is invaluable and regard it as one of our best methods of foremanship training.

5. *Transfers.*

One method of training our foremen and sub-executives is to transfer them from the particular job on which they have specialized to other work which will give them a broader training. For example, we have made it a practice to transfer to the Employment Department various foremen to act as interviewers. Such work does a great deal to broaden the foreman's point of view and make him a *company* man rather than a departmental man.

Technical Courses

The following companies are conducting courses which are more or less technical and pertain more to the manufacture of the product and the technique entering into it than to specific performance in the responsibilities of a given position. It has been previously stated that, while such instruction is, unquestionably, of value to foremen, it seems that it should be more properly headed up under some different designation. The following companies are apparently presenting such courses :

Warner & Swasey Co.

"This winter we held classes twice each week for such foremen as wished to attend in the following subjects: mathematics and drawing.

"We object to the term foremanship training. Probably we all feel the same way, and understand rather a Forum on Foremanship, as more nearly representing the correct attitude of company and foremen.

"We have given this course with the assistance of men in our own organization; for instance, the drawing was taught by Mr. Tufts of our Designing Department, the mathematics by Mr. Jones. There was as little formality connected with the work as possible. We met immediately after shop hours on Tuesdays and Fridays, taking lunch together in our cafeteria, then spending two hours on school work. Apparently it has done us a great deal of good, and has been greatly appreciated by the foremen who attended. We look forward to the extension and expansion of this work another year."

Nordyke & Marmon Co.

"Before the Industrial depression compelled us to decrease our personnel, the foremanship training class was conducted two days a week from 5 until 6 p.m. At these meetings talks were given by our plant executives and discussions were afterwards held concerning the subjects under consideration. In addition to the discussions of administrative problems, specific talks were given on our manufacturing standards and Engineering Department requirements in the machining and assembling of the Marmon Car.

"The men attended these classes on their own time. The course of instruction was under the direction of the Educational Department. When business approaches normalcy, foremanship training work will again be resumed."

Production Conferences

It would naturally seem that in the consideration of conferences, which include foremen and others of their rank as a

branch of foremanship development, that these would aptly come under the definition of foremanship training for, as they center around production itself, the very nature of the conferences would brand them as being specific and not general. Yet, in the examination of correspondence relative to these conferences, and in other studies which have been made of them, it actually develops that there is a very wide range of topics included in these discussions.

It is also desired to point out that while foremen, unquestionably, gain a great deal of information from conferences of this type that is specifically valuable to them in the performance of their work, such information is only incidental to the real purpose of the conferences. Training, if it is gained in these cases, is a by-product of the main result. Usually in such conferences there is no particular organization of the problems that are taken up, they are current problems which, for the time being, are vitally important and demand the coordination of several department heads in reaching their solution. Such a program is a part of any well organized concern. It is a common error in connection with foreman training to confound the function and undoubted value of production conferences made up of foremen with the function of a training course and to expect to obtain from such meetings, valuable as they are in terms of their proper function, the results that can only come through a well organized and well taught training course.

The Committee does not underestimate such work for, in its place, it is decidedly valuable, but it does desire to make the discrimination between pure production conferences of foremen and organized foremanship training courses.

The following will give some of the companies who are conducting meetings of this type and will show, to some extent, their method of conducting them.

Erie Railroad Company

"The Erie Railroad Company runs the job alone.
The training of our Supervision comprises:

- (a) Selection of applicants for employment.
- (b) Handling of employees thereafter.

We have, therefore, developed the following system for such training:

The Departmental head in each region controls the training in his department.

The officials next in rank develop and carry out this training in accordance with the policy of the General Management.

Talks, lectures, courses of reading and instruction, along the lines laid down, are given at the monthly meetings of the Supervision, by these officials or those of higher rank.

The General Management issues instructions and leaflets indicating policies or definite methods when such seem advisable.

The *content* of the course is handled, in its details, by the Managers in each region. They have different conditions, both physical, economic and psychological, confronting them, and any attempt at too much standardization in the initial stages of development is considered contrary to good organization. To excite initiative and interest, and reap the best results from such a situation is believed to be the most efficient policy under present conditions, if not at all times. Coordination of effort and free interchange of ideas is handled through the personnel staff officer of the General Manager."

Youngstown Sheet and Tube Co.

"We would advise that what work is done by us is handled within our own organization through the superintendents of the various departments of our plant having periodic meetings with their foremen for such instruction as it seems necessary to give them."

Oneida Community

"We do not have any special plan for this work, the foremen, in general, rising from the ranks and carrying on their work along the lines which would represent a combination of past practices, their own judgment and the advice of superintendents.

"Our foremen meet together frequently for discussion of their problems, however, and also in groups meeting with superintendents.

"Perhaps the nearest thing that would represent the training you are inquiring about is the development of the spirit of co-

operation and enthusiasm and acquaintance with the other fellow's point of view and problems through frequent meetings, and especially also in contact in these meetings and other ways with Mr. Kinsley and his assistants."

• **Larkin Company**

"We have not put into effect any systematic training course. The nearest we come to a foremanship training is through our Department Managers' Organization. There are about sixteen managers who meet quite regularly with the general manager. In these meetings matters of policy are discussed and these department heads are really held responsible for the training of their own foremen. We have about seventy-five foremen in our plant. Their training consists mostly of special instruction by their own department manager."

Southwestern Bell Telephone Co.

"Our Company has no definitely organized course of instruction for foremen. This matter is left more or less to the several departmental or functional superintendents and the limit of their activities in this direction consists of frequent conferences and consultation, and the furnishing of pertinent printed information which will assist in the education of the foreman. I might mention incidentally that we have a circulating library on management problems, which is used to considerable extent."

Peoples Gas Light & Coke Co.

"Every superintendent tries to instil in the men under him a working knowledge of plant operation and cooperation. Some departments do this through regular meetings.

"We are getting across fundamental truths by the use of silent salesmen, such as 'Secrets you ought to know.' They are appreciated, we know, because quite frequently a superintendent asks for from fifty to seventy-five copies for distribution among the employes of his department."

Combination Courses (Company Operated)

There have been several outlines presented which include much that is specifically foremanship and an equal amount of

instruction that is apparently general in its nature and, in certain cases, they have contained, as well, a certain amount of purely trade technical instruction. Illustrations of such courses follow:

S. F. Bowser & Co.

1. *Company Policies*

1. Purpose of the Company
2. Policy on Product
 - { Material
 - { Workmanship
 - { Finished Product
3. Policy on Management
4. The Customer
5. Competition
6. Reputation (Rice Leaders of the World)
7. Employment Policy
 - (a) Purpose of Employment Department
 - (b) Method of Selection
 - (c) Placement
 - (d) Follow-up
 - (e) Rating
 - (f) Training
 - (g) Promotion
 - (h) Transfer
 - (i) Firing

8. Personnel Work

- (a) Purpose and Scope
- (b) Yearly Award and Vacations
- (c) Shop Control
- (d) Welfare and Cooperative Activities
 - Nurse
 - Hospital
 - Garage
 - Restaurant and Clubhouse
 - Athletics
 - Legal Aid
 - Booster
 - Safety

Suggestion
 Bowser Mutual Benefit Association
 Home Building
 Bowser Loan and Trust Co.
 Awards and Vacations

9. Foremanship

- (a) Responsibility as Company representatives
- (b) Responsibility to the worker
- (c) Responsibility to self

10. Foremanship duties

- (a) To maintain production
- (b) To control and reduce costs
- (c) To maintain and develop the working force

11. Foreman Qualifications

(a) Personality

Personal appearance
 Conduct—self-control
 Morals
 Personal Habits
 Neatness
 Punctuality
 Tact
 Respect
 Personal Pride

(b) Mental Attitude

Toward Company's policy

Knowledge

Suggestion

Cooperation

Toward the Administration

Loyalty

Cooperation

Toward the Employee

Loyalty

Fair Dealing

Firmness

Sympathetic Comprehension

Good-will
 Courtesy
 Power of observation
 Accessibility
 Tenacity of purpose
 Discretion
 Open-mindedness to suggestion

- (c) Mechanical and Technical Ability
 - Knowledge of machinery
 - Skill in operating machinery
 - Knowledge of tools
 - Skill in using tools
 - Ability to read blueprints and operating sheets
 - Knowledge of modern production methods
 - Details of office practice and procedure

2. *Department Organization and Management*

1. Analyzing

- (a) Purpose of analysis
- (b) How to analyze
- (c) Job analysis
- (d) Department analysis
- (e) Charting results

2. Organizing

- (a) Purpose of organization
- (b) Principles of organization
- (c) Charting and organization
 - Personnel and line of authority
 - Functional chart
 - Duties and responsibilities
- (d) Charting work in progress
- (e) Organizing for team work
- (f) Recording routine (time, costs, etc.)
- (g) Analysis of jobs
- (h) Standardization
- (i) Standard written instructions
- (j) Planning to work
- (k) Production control

3. Managing and Supervising

- (a) The Foreman as a Manager
- (b) The Foreman as a Supervisor
- (c) Handling men
- (d) Use and care of machinery, materials, tools
- (e) Training and workman
- (f) Methods of supervision
- (g) Costs and overhead
- (h) Detecting, locating and correcting wastes of men, material and machines

3. *Related Technical Information*

- (a) Study of texts, bulletins, catalogs, data—commercial and trade journals
- (b) Talks by experts on special trade subjects
- (c) Special study and analysis local shop technic

Note.—Machine shop foremen may need related technical information on feeds, speeds, cutting angles, properties of steel, uses of new tools and machines

- (a) Proper text matter will help him
- (b) Experts from the machine tool field give practical talks
- (c) Foremen and method department together analyze and study for results

Eastman Kodak Company

This course is being used at the Camera Works of the Eastman Kodak Company. In another section of the report is an outline of a course somewhat differently organized and presented at the Kodak Park Works.

"The work, as planned, is based on the exposition of six fundamental principles of organization as applied to the factory concerned, preceded by general information regarding the growth and development of the company. These principles or divisions are: Finance, Buying, Production, Selling, Labor, Accounting. It is intended to trace the development of these factors from a one-man business, when a single individual is responsible for all

these phases, through a partnership, to a large organization where one person is directly responsible for only one of these phases.

The preliminary work completed, it is expected to base the main part of the instruction on these six branches of business activity, as worked out in the Kodak Company, explaining the work of each, and the relation between them from the foreman's point of view.

It is expected that thirty-minute meetings will be held once a week or every two weeks. Ten minutes will be devoted to a paper on the subject of the meeting by one of the department heads, and ten minutes allowed for discussion. The last part of the period will be devoted to discussion or instruction on some current problem in which all are interested. It is thought that by having prompt attendance and preventing any waste of time that the comparatively short time devoted to the meeting will prove to be a satisfactory arrangement."

Winchester Repeating Arms Co.

"Our method of presentation adopted for this season's work was to have the subject presented in a brief, to-the-point talk of about fifteen or twenty minutes, and then complete the hour with discussion. We had each group elect a chairman from its membership and through that foreman three or four foremen would be notified during the week that they would be expected to lead the discussion at the next meeting and in that way it was usually possible to start things.

These conferences have been temporarily discontinued on account of the irregular schedules under which we have been operating, but we are receiving constant inquiries from them as to when they will again be resumed, which I feel is an encouraging feature. We are running the job alone at the present time as no cooperating agency has presented itself up to the present which appeals to us. This does not mean, however, that we will not be able to work out something in the future along such a line."

Training in Industrial Representation

The General Electric Company, at its West Lynn works, is conducting a series of conferences of a group made up of six management and six employe representatives.

While the nature of this work is somewhat foreign to the subject of foreman training or foremanship training the plan itself is somewhat unique and decidedly interesting. For these reasons, and by reason of the fact that foremen are included in these groups, the liberty is being taken to include comment upon this work. The Committee believes that a new field is being opened up in this connection that offers very great possibilities. An account of this work follows.

"The groups as made up for conferences, in our Plan of Representation, consist of twelve men, six management representatives and six employe representatives. In these conferences, as in the plan itself, we hold to the spirit of equal representation, and the men discuss their problems around the table. This eliminates any possibility of suspicion, on the part of the employes, that it is a scheme whereby we might be trying to coerce them from their labor stand. These meetings are held on shop time and, of course, they receive their pay.

The group of shop men is the first group of its kind that we have held. They are men with whom we had previous conferences and who impressed us as men of superior qualifications and who were sincere and courageous enough to frankly discuss the shop problems from all angles. At this writing we have met this particular group at three different meetings, and the results have, so far, justified our calling them.

Perhaps it would be interesting to know that our General Manager, Mr. R. H. Rice, our General Superintendent, and the Manager of our Federal Street Works went through a series of conferences on an equal footing with men elected by the employes. Only today Mr. Rice informed me that his attendance at these conferences was one of the best things he has done for the success of the Plan of Representation.

After study of the plan the difficulties surrounding it, we came to the conclusion that much of the difficulty was due to misunderstanding and the fact that the men lacked common ground to work upon. We have developed a series of conferences, which take fifteen meetings, each meeting consisting of one and three-quarters hours. The first five conferences are more or less general, with problems of discussion wherein we are all on an equal plane. This very quickly shows up the reasoning ability of the

man, and we then analyze the usual conclusions reached. We discuss methods of organizing for proper discharge of any problem that may come before a committee, and by the end of the second week we are usually in a most excellent position to discuss, very confidentially, methods of giving the most effective results.

We think perhaps the greatest good from these conferences is the fact that the men learn to know each other and become thoroughly acquainted with the characteristics of each man. Perhaps, while we cannot claim that these conferences were responsible, it is nevertheless a fact that since they have begun, last July, our shop committee cases have fallen off over fifty per cent. After handling the shop committees, we started conferences of shop representatives and their foremen, these are now running and are giving most excellent results. Many of the shop men have expressed great appreciation for the knowledge and training in sound reasoning which they have received.

At the present writing we are organizing a group of entirely shop men, who, we expect, will give us some more good material for future conferences that will make still smoother running of our plan.

We think the whole difficulty has been that we have not had sufficient confidence in our men and have not given them the opportunity to show their fairness, and the more we work with these men the more confident we are that we are all striving for the one common end, which is to give a square deal to both the Company and the men.

Foremanship Training

The courses grouped under this heading have the following characteristics:

1. They are specialized in terms of the particular occupation followed by the members of the group to which they are given.
2. The membership of the group hold relatively similar positions in the organization and have a common background of experience.
3. They are usually developed from within the plant and are characterized by the absence of lectures by experts, and in place

thereof conclusions are developed through the discussion of right and wrong methods of carrying out the responsibilities.

4. They are essentially analytical.

5. They do not confine themselves to instruction alone, but usually carry with them a follow-up or training process.

Training Leaders of Foreman Classes

As stated above, it is seldom that courses of this type are presented by outside agencies, particularly those who are engaged in the work for financial gain. Many of the universities and State Boards of Education have become affiliated with foremanship training and are conducting their work under the provisions of the Smith-Hughes act. In many cases this work has been very practical, but it is more frequently concerned with the development of leaders of foreman classes who will, in turn, conduct foremanship training activities in the organizations from which they are selected. These courses are, therefore, teacher-training courses, having as their purpose the development of men who can competently handle this activity in the industry. It is frequently found that such courses are very practical and that they have confined themselves specifically to foremanship. Several illustrations of such courses follow:

University of Cincinnati

Courses were originally organized in the University of Cincinnati for the training of leaders of foreman classes; the University operating such work under the provisions of the Smith-Hughes Bill. Representatives were drawn from industry and any analysis of the foreman's job was made with these men. This work was under the direction of Professor D. J. MacDonald. The results that have been produced are most noteworthy and are extremely practical.

"The purpose of the so-called foreman course conducted last year was three-fold: first, to make a thorough study of what should constitute the content of a foreman course limiting itself entirely to a consideration of human relationship problems; second, to indicate the method of organizing material of this character so that the men in training might proceed along the lines

suggested; third, to put the men in the class in touch with the most acceptable methods of handling classes of the foreman type.

Men were enrolled from twelve different plants; one man each from the National Lead Company, the Peerless Foundry Company, the Fox Paper Company, the Krippendorf-Dittman Shoe Company, the Ford Motor (assembling) Company, the Cincinnati Milling Machine Company, the Philip Carey Manufacturing Company, the U. S. Printing and Lithograph Company, the Ault & Wilborg Company (printers' inks); two men each from Procter & Gamble, and the American Rolling Mill Company, Middletown, Ohio.

The results of their deliberations were briefly as follows:

1. That foremen as a class will derive the most good from a training course if the manner of approach is such that they are led to believe that their knowledge of their jobs is appreciated and valued rather than discounted. This would require on the leader's part that he be qualified to stimulate discussion of problems which are so close to the foreman's daily life that he does not see them in proper perspective; this, of course, to be done through the use of proper questions.

2. That published courses to date have dealt largely with the production problem in so far as it has to do with the handling of materials, and that, therefore, emphasis might well be laid upon those phases of the foreman's job which have to do with dealing with men rather than material.

3. That it would be possible to give men and women of the type enrolled for the work sufficient training to enable them to lay out courses acceptable for the needs of their foremen, and to cooperate with them in a supervisory capacity so that the courses might be conducted with greatest satisfaction.

4. That the points or units which might serve as a satisfactory basis for a foreman course limiting itself exclusively to the consideration of problems in human relationship should include at least the following:

The foreman's job

The foreman and company policies

Inducting new workers
 Fitting workers to jobs
 Promoting and transferring workers
 Rating workers
 Instructing workers
 Disciplining workers
 Planning the work
 Securing and using suggestions
 Rating foremen
 Correcting false economic ideas
 Incentives in industry

Following are some of the high points that have been taken from Professor MacDonald's course together with a sample of the questions that have been used therein:

The Psychology of Self-Improvement

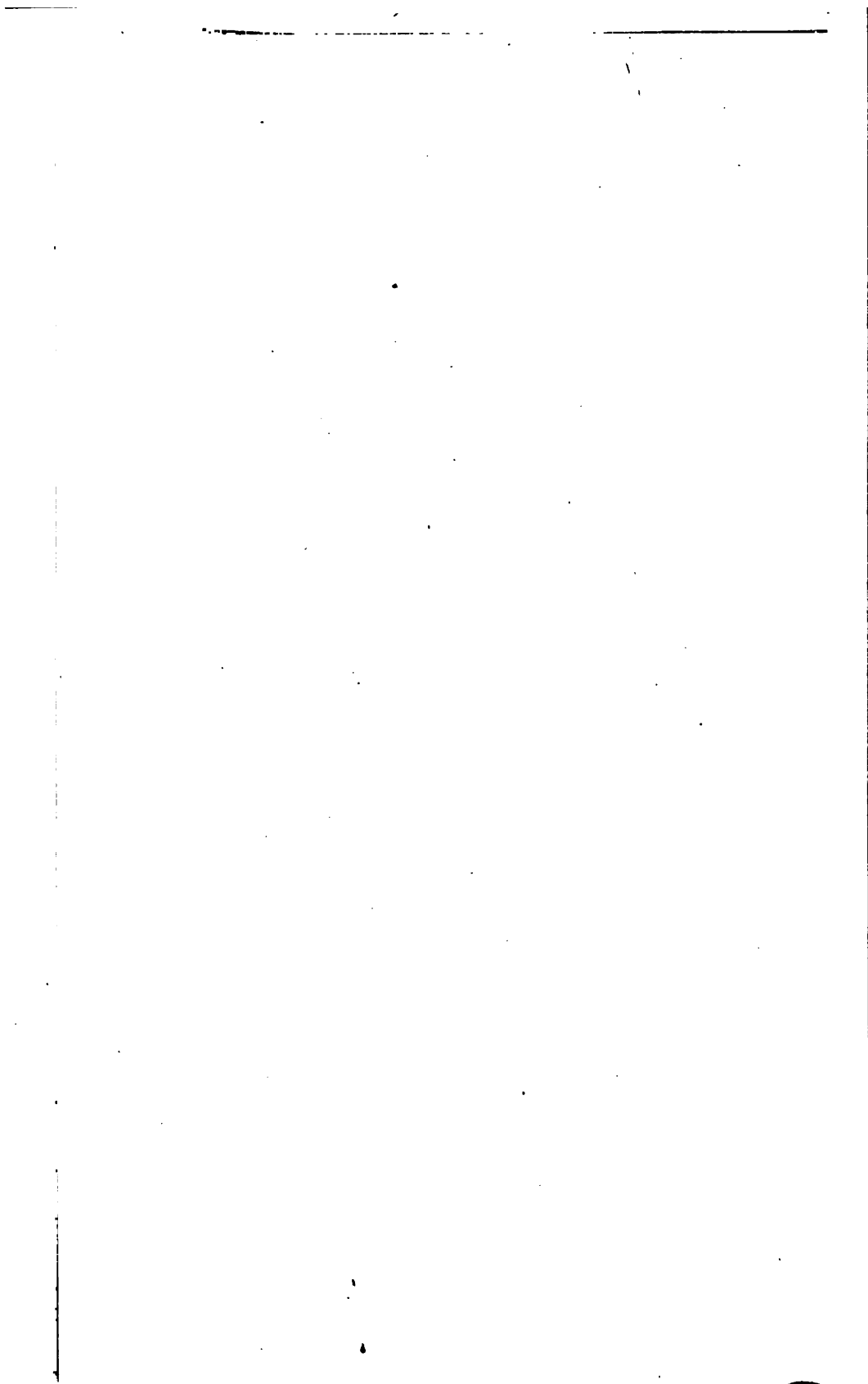
The outstanding fact here is that we are dealing with a person (the foreman) who is not given to close analysis but who, if he is to measure up to the best that is in him, must acquire the analytical habit. Consistent and continuous self-improvement cannot come about in any other way.

Observe (1) that there are four steps in any self-improvement cycle, namely:

- (a) Desire to improve (this is invariably preceded by the realization that improvement is possible as desirable)
- (b) Knowledge of something better (information)
- (c) Knowledge of individual shortcomings (information)
- (d) Knowledge of how to put and willingness to put the "machinery of reform" into operation (information)

and (2) that when these are reduced to their lowest terms, they mean nothing more than that the person concerned must have information

- (a) that he can and should improve
- (b) that it is his task to devise a plan most suitable to himself for carrying on such improvement.



Analysis Form for Ascertaining Foreman's Responsibility Points

Name..... Position.....

Department.....

On the list below check off the "responsibility points" that you consider as being a part of your job. If you think you have any points not listed, write them in at the bottom.

Covering all operation points providing minimum of necessary skill on each point.

Obeying orders intelligently
Back checking
Following directions
Carrying out suggestions

Giving orders to men
Giving directions to men
Making suggestions to men

Making records
Getting records from men
Receiving report
Checking reports
Checking records
Transmitting records
Transmitting reports
Keeping records in file
Keeping reports on file

Taking orders from supervisors
Asking for orders when necessary

Carrying out orders
Verbal
Written

Following prescribed procedure
Special forms
Form letters
Letters
Memoranda
No form

Giving attention to
Physical condition of the face
Physical fatigue
Mental strain
Illness
Personal habits
Incipient disease
Susceptibility to personal injury
Chronic disease
first aid

Using own methods:
Special forms
Cards
Loose leaf
Loose paper

Detailed Analysis of Foreman's Job (Metal Trades)

A.—PERTAINING TO THE WORKERS

1. *Inducting new workers*

Interviewing	Introducing to fellow workers
Selecting (in cooperation with personnel department)	Showing location of time-clock, locker, wash-room, etc.
Assigning to tasks	Acquainting with plant routine and rules and regulations
Equipping (with tools and appliances)	
Following up	

2. *Instructing workers*

General instructions to all workers regarding	Trade instruction for Apprentices
Company policies	Inexperienced workers
Plant rules and regulations	Adapting new experienced workers to particular plant practices and methods
Safety	Up-grading old employees
Trade and shop sanitation	Teaching new operations to old employees
Trade and shop hygiene	Imparting to all workers special information regarding special jobs

3. *Fitting workers to jobs*

Analyzing department into its various jobs	Analyzing workers' qualifications
Analyzing jobs for purposes of preparing job specifications	Recommending workers for transfer and promotion

4. *Rating workers*

Studying and analyzing workers' qualities from results of informal interviews, observation and performance	Recording results of analysis by means of rating cards
--	--

5. *Correcting (disciplining workers)*

To promote sanitation and health	By means of
To improve department morale	Personal talks
To secure and maintain high production	Rewards and incentives
	Transfers and dismissals

6. *Transferring and promoting workers*

To safeguard workers' health	To remove necessity for continued friction
To secure high efficiency through better fitness for job	To balance production
To provide broad training	To reward for good work

7. *Securing cooperation through*

Being fair	Sympathetic understanding
Tactfulness	Effective cooperation

8. *Securing and using suggestions*9. *Maintaining cleanliness and order*

- | | |
|--|--|
| To prevent waste | To remove danger of fire |
| To avoid undue delay | To maintain high efficiency of equipment |
| To lessen possibility of accidents and disease | To keep up good spirit in department |

B.—PERTAINING TO THE MANAGEMENT

1. *Interpreting the management to workers*

- | | |
|---|--|
| Securing and transmitting information on company policies | Transmitting orders from management to workers |
|---|--|

2. *Interpreting workers to management*

- | | |
|--|--|
| Securing and transmitting workers' reactions to policies, methods and orders | Translating dissatisfaction of workers, assigning causes and suggesting remedies |
|--|--|

3. *Records and reports—Bookkeeping*

- | | |
|--|---|
| Making, checking, keeping and transmitting records on labor, time, production, materials, equipment, | tools, repairs, maintenance, safety, etc. |
|--|---|

C.—PERTAINING TO MATERIALS AND EQUIPMENT

1. *Assigning and moving work*

- | | |
|--|---|
| Assigning jobs to men and machines | Routing and dispatching work through department |
| Supervision of work to maintain production | Routing and dispatching work out of department |

2. *Maintaining equipment and tools*

- | | |
|--|--------------------------------------|
| Supervising oiling, adjustments, minor repairs, etc. | Making requisitions of various types |
|--|--------------------------------------|

3. *Improving equipment and methods*

- | | |
|---|---|
| Supervision and analysis of production processes for determining improved methods | Making recommendations to tool, planning and engineering departments for utilizing suggested improvements |
| Obtaining and using suggestions from workers for better methods and equipment | Experimentation to effect better methods and try out new equipment |

4. *Inspecting work*

- | | |
|---|--|
| Actual inspection of output | Recording and accounting for scrap |
| Supervision of own inspectors | Salvaging and repairing |
| Cooperation with inspection department | Planning proper distribution of repair jobs in order to maintain balanced production, to keep down costs, etc. |
| Studying equipment and methods of production to determine and remove causes for defects | Penalize careless workers by fixing responsibility for repairs |

Training Leaders for Foreman Classes

SUPPLEMENT TO INSTRUCTION SHEET No. 17. SUBJECT MATTER IN FOREMAN COURSE

The Difficulties Which Foremen are "Up Against Daily.

The following problems represent in part the results of search for practical difficulties which foremen face from day to day. The question form of statement is used for the reason that it seems to have distinct advantages over any other form. It should be noted that this form of statement not only invites but encourages discussion.

1. How should a foreman deal with a man who is an excellent workman, but who is always carrying matters over the foreman's head?

2. An important question of transfer: Would you favor transferring a man who had been thoroughly trained for work in your department and who is giving excellent service, to a position in another department which could not at the time be considered a promotion, but which obviously has greater future possibilities in it?

3. If a worker asks his foreman for information regarding the work which the foreman is not qualified to furnish at the time, which of the following courses should the foreman take:

(a) Admit his inability to answer the question and assure the worker that he will find out and let him know as soon as possible, or

(b) Give some sort of an answer, in other words "bluff it out" and run the risk of being found out later?

4. How is a foreman to meet the practical problem of getting workers to appreciate the importance of their work, e. g., handling hard iron carefully?

5. What method should a foreman pursue in trying to lead a man to have a higher regard both for his own and for his fellow workers' welfare?

6. How should a foreman attempt to manage workers (1) who deliberately "kill" time in order to make the job last longer, and (2) who have the habit of taking it easy whenever the "boss" is not around?

7. What would be the best way for a foreman to meet a situation like the following: Due to negligence or incompetence on the part of the Inspection Department extra operations are made necessary in a certain foreman's department, the cost for which is, of course, charged against him.

8. A problem of discipline: How can a foreman cut down (a) tardiness and (b) absenteeism in his department.

9. How is a foreman to plan and carry out a schedule of work consisting of short orders, when he has only piece workers in his department.

10. How are foremen to keep their men "sweet" during a period when satisfactory piece work prices are being determined and during a try-out period when piece rates are being modified?

11. What would be the sensible thing for a foreman to do when a reduction in working hours has reduced the weekly wage of his men as a consequence of which they are demanding an increase in wages?

12. A foreman is "up against" the demand for increased production when his machine capacity is limited. What should he do?

13. This is the foreman's problem. How should he solve it? A new piece work price has been set on a certain job. His men, before giving it a proper trial, protested that the price was too low for them to make the established rate.

14. What should a foreman do when one of his men who has produced defective parts refuses point blank to re-operate the parts in order to correct the defect, this re-operation, of course, to be done without pay.

15. How should a worker be dealt with of whom the following is true:

(a) Too many just complaints are coming in against the work he is doing.

(b) He has been cautioned several times regarding the quality of his work.

(c) Temporary improvement followed each warning.

(d) He is a capable man, one that would be hard to replace.

16. What would be the best course for a foreman to take when, following the establishing of a new rule regarding methods

of handling the work, a delegation of twenty workmen wait on him and protest against the rule?

17. A question of policy: In case the management is operating "open shop" should a foreman, when lack of orders necessitates reducing the working force, recommend for discharge those workers who are known to be union members or labor agitators, regardless of their workmanship ability?

18. Another question of policy: If at the time of hiring an employe he is told that his rate will be increased if he "makes good," what should a foreman do when the following conditions prevail? The man works conscientiously and his production steadily improves, but it does not yet equal the average of men on the next higher rate. The foreman is satisfied that the man will make a good employe. The man thinks he has "made good" and requests his increase.

The following concerns are among those carrying on foreman training work in accordance with the principles laid down in Professor MacDonald's outline and are working in conjunction with him:

American Rolling Mill Company
Westinghouse Electric and Manufacturing Company
Dayton Engineering Laboratories Corporation.

A further illustration of the procedure of the American Rolling Mill Company follows:

American Rolling Mill Co.

We have been conducting a class in Foremanship for several months under the instruction of Mr. L. A. Flagler, who is in the employ of the Ohio State Board for Vocational Education. (Acting in conjunction with University of Cincinnati.)

We have weekly meetings and the attendance has grown from an initial enrollment of 15 to 102, and the interest seems to be on the increase.

We have what is called a "Foremen's Council" with a group of about one-half dozen men who meet every week to decide upon a topic for discussion. The membership of this group is not constant, for each week we drop a few members and invite in a

few new ones. This procedure gives us the best thought of a large number of foremen.

We have just very recently started a council of Superintendents, organized in the same manner as our Foremen's Council, for the purpose of getting the advice of the department superintendents on the conduct of the course.

We feel that these two adjuncts constitute the chief elements for the success of our foremen's class.

For some weeks we have been issuing a Foremen's Bulletin which is sent to every foreman in the plant as an invitation to attend the Foremanship class. Copies of these bulletins follow.

These bulletins illustrate a unique method of developing the plant interest in the classes.

Foremen's Bulletin No. 2

Fifty-two men were present on January 27 and they were literally sticking out of the windows.

We will have a larger room next week to accommodate the increased number expected. The time of the meeting will be 6.45 instead of 6.30.

The topics discussed were:

Armco Policy on Transfer and Discharge.

A foreman can transfer any man to any other foreman at any time simply by agreement between the two foremen and the man. But foremen are urged, before making such transfer, to make use of the very complete information which the Employment Department has on all of our men.

A foreman can discharge a man for any reason. He is expected, however, to be able to justify such action. Instead of discharging a man a foreman sends him to the Employment Department on "disposition." Here an effort is made to fit all worthy men into some other place in the organization.

Before a man draws all the money due him he visits the Employment Department at which time his record is completed. When it is necessary to discharge a man it is the ambition of the management to have him so fairly treated and so thoroughly in-

formed as to the cause of his discharge that he will leave with only good will toward Armco.

Reasons for Discharge or Transfer

Reasons for discharge were discussed. Among these were:

- (a) Fighting.
- (b) Stealing.
- (c) Persistent trouble agitation.
- (d) Persistent violation of safety and operating regulations.
- (e) Intolerable personal habits.

Transfers were suggested in the following cases:

- (a) Promotions.
- (b) Inability to do the work.
- (c) Physical unfitness.
- (d) Misfits in the crew—incompatibility.

In all cases of discharge, transfer, or "disposition" foremen must consider:

- (a) The best interests of the man.
- (b) The best interests of the department.
- (c) The best interests of the entire organization.

Next week's discussion will be on—*Rating of Workmen*.

We are all rating our men and each other every day. The class will attempt to work out a systematic way of doing this rating.

TRAINING DEPARTMENT.

January 31, 1921.

Ask Yourself

What would have happened if during the advances in the late World War some one hadn't been prepared to carry on the fight when the top sergeant went down. Some one who knew as well or better just how to direct the efforts of the men to the best advantage under all circumstances. The top sergeant who was responsible for results didn't wait until they were ready to go over the top to pick a man to take his place if necessary. He picked him when he had plenty of time to think about who could

come the nearest to doing the job, and then he trained him to do it.

This plan works in our plant the same as it does in the army, for the foreman is really the top sergeant in industry.

One of the most important jobs a foreman has is to select from the ranks a man who can step into the foreman's shoes at any time, and handle the job satisfactorily. A good many times the man in training gives his superior a slant on the job which is actually responsible for the superior's getting a better one.

Some foremen get so interested in getting themselves ready for a better job that they overlook altogether that they must have men ready for foremen's jobs before they themselves are prepared for better ones.

Training a man to take our place is some job. It's as hard on the man who is being trained as it is on the fellow who's doing the training. This means a foreman must be able to break the job up and give it to his man in small enough doses so he don't get more than he can take at a time. Sometimes a foreman believes that all he needs to do is to put somebody next to his job, and tell him all about it, and then he's through. Once in awhile you'll find a foreman who won't tell anyone the whole job because he's afraid he'll work himself out of a job. In other words he holds back some of the "secrets" so he always has something to tie him to the job.

If a foreman is called off his job unexpectedly and the second man in command immediately begins to ball things up, the big boss at once discovers that that particular foreman's organization is weak because he hasn't a man well trained to step into the foreman's shoes. That foreman isn't going to be asked to take a better job very soon because he hasn't his department in shape to leave it.

We're going to find out Thursday night what *Armco* foremen think about this, because most of us are playing second fiddle to some one and we ought to know a whole lot about it. Some of the fellows say that they have been waiting for this and are going to throw it wide open.

Nothing gets by this crowd and there's nothing left to talk about when they get through. You'll go home feeling like getting

right out on your job and beginning to do it better. We expect to have a mighty interesting announcement to make next week for this class. This Thursday we're going to start at 7.00 o'clock, as most of the fellows say that 6.30 or 6.45 is too early.

TRAINING DEPARTMENT.

Armco Foremen's Bulletin No. 4.

February 15, 1921.

THURSDAY, MARCH 10th, AT 7.00 P. M. IS THE TIME OF THE NEXT FOREMANSHIP CLASS MEETING. NO FREE LUNCH.

Some remarks on past and future meetings—Dictated but not signed.

A fellow said today that he does not come to the foremanship class meetings because he did not get an invitation.

Now listen, Gertrude, this ain't no dress suit affair we put on every week, and we don't put out any fancy engraved invitations any more than the old fashioned free lunch counter used to put them out. The fellow who wanted free lunch went and got it. Foremanship class ditto.

Incidentally those who were too timid to come out last week missed a full seven course banquet of foremanship ideas when Mr. Hook talked to us. You never can tell. It's best to come to all the meetings so you won't miss anything.

Mr. Beatty says the subject to be discussed at the next meeting is costs and wastes—No, not cost of waists—The cost of waists is—but that's another subject. COSTS AND WASTES, "articulate carefully," as our Public Speaking Instructor would say.

Do you know the costs of these items?

A railroad spike,
A foot of copper wire,
A porcelain insulator,
A gallon of engine oil,
A pound of waste.

We don't either, but we are going to find out something about it at this meeting. Think it over and bring some examples of correctable waste in our plant.

Do you know "it takes the profit of fifteen good sheets to pay for the loss of one?"

Do you know some of the things that cause sheets to be thrown into the waste pile?

Now remember, these meetings are open to anybody who thinks he would like to be a foreman, is a foreman, or has been a foreman. No password required. The only requirement is that you slip some of your ideas into the argument whenever you feel inclined to do it. If I tell you what I know, and you tell me what you know, then we both know something—see?

TRAINING DEPARTMENT.

Foremen's Bulletin, No. 7.

March 9, 1921.

University of Michigan

Each topic is developed in an outline which is submitted to the men on a meeting night preceding its discussion. They do not stress the instruction side of foremanship as they feel that it is more important that the foremen be familiar with the fundamental principles of psychology and economics and that they be awakened to the opportunity they have for carrying these over to their men. In doing this, however, they avoid mentioning the names under which these principles are recognized in educational circles.

The following is a brief outline of the course presented at the University of Michigan.

Purpose of Course

To provide an opportunity for men with experience as foremen to discuss methods and topics suitable for carrying on foremen's meetings, with a view to preparing them to act as leaders of such meetings in their own plants or communities.

Method

By means of round-table discussions, individual reports, and suggestive lesson sheets.

In discussing the following topics such things would have to be stressed as:

1. Keeping the question being discussed constantly before the members.

2. Getting all members to take part.
3. Creating an informal feeling.
4. Avoiding personal references.

Suggested Topics

1. Of what interest is the organization chart to the foreman?
2. What characteristics does the foreman possess which should tend to make him a successful foreman?
3. Does the average foreman usually consider what jobs he is paid for doing?
4. What is the attitude of the average foreman to the employment department? *Why?*
5. Are all the workers who are hired for any department able to do well the job they are hired for? If not, what does the foreman do about it? What ought he to do?
6. Can all workers be handled alike? Is there any relation between a foreman's attitude on this question and the efficiency of his department?
7. Is there any relation between the contentment of a working force and its efficiency?
8. Should workers be paid for the time they spend on a job, or for the work they do on it?
9. Should a foreman have any interest in what his men are thinking about?
10. What is industrial democracy? Is it a safe thing to talk about among a group of workers?
11. Are the foremen familiar with the policy of their firm on the topics mentioned above? If not, would it be of any advantage to them or to the firm if they were?

COURSE FOR FOREMEN

I. The Organization

1. Three main factors in it.
 - (a) Capital.
 - (b) Management.
 - (c.) Labor.
2. Interdependence of these factors.
3. The foreman's relation to the management.

4. The foreman's relation to his fellow foremen.
5. The foreman's relation to his men.

II. *The Foreman*

1. What constitutes a good foreman?
2. What are his duties?
3. Upon what basis are foremen chosen?
4. How should he be chosen?
5. What training can we give him?

III. *The Men*

1. Should they all be handled alike?
2. What is the relationship between contentment and efficiency.
3. How should they be paid?
4. Who should hire and fire them?
5. Who should train them?
6. How should they be trained?
7. Should they have anything to say regarding the management of the factory?

IV. *Materials and Equipment*

1. Routing of materials.
2. Care of materials and equipment.
3. Working equipment to capacity.
4. Recording machine efficiency.

University of Texas

The University has been conducting foreman training classes for auto shop foremen, as there are a greater number of these foremen than in any other trade in the State. Classes were organized by first sending circular letters to various automobile shops and garages. These letters explained the purpose of the training and contained a checking list which served to develop the kind of training most needed. A copy of this checking list follows. Courses were arranged to conform to this demand.

Classes were first held on the employer's time, twice each week from 10 A. M. to 12 M. The men were brought in from

probably 12 or 15 different concerns, but we soon found that most of the foremen preferred to come in the evening on their own time, as they considered the morning time broke into their work too seriously."

NOTE:—Bulletin No. 37, Trade and Industrial Series 7, Federal Board for Vocational Education.

They now contemplate using additional foreman classes in some of the machine shops and oil refineries in the State.

Checking Points for the Training of Auto Shop Foremen

Check points on this list in which your foremen should be trained.

1. Car is repaired as ordered by customer.
2. Customer is informed when additional repairs are found necessary.
3. Car is not scratched or marred.
4. Mechanics do not leave grease and dirt on seats and steering wheel.
5. Men are properly protected from belts, gears and moving machinery.
6. Jobs are finished on specified time.
7. Jobs are routed in proper order through the shop.
8. Assigning necessary equipment and tools for each job.
9. Ordering new tools and equipment.
10. Shop equipment is kept in good order.
11. Tools are checked up to prevent loss.
12. Shop is kept neat and orderly.
13. Arrangement of shop equipment.
14. Requisitioning parts.
15. Time on each job is carefully kept.
16. Material and parts used on each job is carefully checked.
17. Time of workmen carefully kept.
18. Getting reports from men.
19. Checking reports.
20. Checking records.
21. Dealing with carelessness on the job.
22. Customer is treated fairly in the shop.
23. Employing men.

24. All tools are returned to customer same as they are found in car.
25. Mechanics understand their work.
26. Discharging men.
27. Shop men are satisfied with their work.
28. Shop men are interested in their work.
29. Men are regular in their work.
30. Men are given a square deal.
31. Securing cooperation from the working force.
32. Giving directions to men.
33. Cars are stored properly.
34. Proper protection is taken against fire.
35. Job pride.
36. Pride in production.
37. Initiative.

Name.....

Firm

State of Utah

DEPARTMENT OF PUBLIC INSTRUCTION

The program is apparently one which emphasizes the instructing function of the foremen and is designed to meet a specific problem of the section. The program is essentially as follows:

A group of fifteen men representing about twenty factories were brought together in Salt Lake in January and given a teacher-training course based on the work gotten out by Charles R. Allen with which I am sure you are acquainted. Each of these men went back to his own factory and organized instruction groups within the factory. These groups were made up of mechanics, process men and chemical control men, and met separately according to the type of work. The classes convened about four hours a week, half of which was on the company time. This will continue as long as it is necessary during the spring and into the summer, and then will be taken up again in the fall during the sugar manufacturing season in a somewhat different form. The superintendent or master mechanic or chemist, according to the calling of the men attending the training class, will devote considerable time to observing the work of the men in their re-

spective stations and will give them individual or small group instruction in the theory and operation of their respective stations. We will be assisted in this by the men who receive the instruction during the spring and summer and who, for the main part, are foremen, or heads of the different departments of the plant.

A variation of this plan is now being developed by the Amalgamated Sugar Company. They had three men attend the original class, though they operate eight factories in Utah and Idaho. The idea of a training program was so completely sold that the company has utilized these three men to write a course of study in the theory and practice of sugar manufacture and has requested training classes for each of the factories for the instruction of at least four men; namely, the superintendent, assistant superintendent, chief chemist, and master mechanic. At the conclusion of the course, each of these men will take his own department subordinates and give them the fundamentals of trade analysis and the theory and operation of the sugar factory. Following this, each of these subordinates, who are usually foremen, will repeat the course of instruction as it applies to their departments under the supervision of the department heads. This work will be done during the campaign, or sugar manufacturing season, which begins in October and usually ends in January.

It is contemplated that at a later date we will take foremen training classes to the factories to complete the work we have thus begun. In these subsequent classes we will probably meet all the foremen of the factory, instead of delegating part of the work to factory men as in this preliminary work.

Company Courses—Westinghouse Electric & Manufacturing Company

It will be noted in this plan that the Westinghouse Company is in the operation of developing a foremanship course. The preliminaries have been strikingly worked out and, with a similar treatment of the subjects to be covered, unquestionably, a very high grade course should result. Attention is called to their method of developing future leaders for group meetings.

FUNDAMENTALS

It is believed that the Westinghouse Plan for training super-

visors is fundamentally different from plans adopted by other companies.

The aim of the plan is to *develop* the supervisors themselves, not by *imparting* certain information to them but by *getting* certain information *from* them. In short, the plan is one of self education, the men themselves planning the course, making their own text and doing their own instructing.

METHODS ALREADY PUT INTO PRACTICE

Starting the Plan

The works manager selected twenty men from among six hundred supervisors. (Supervisors as used here includes general foremen, foremen, assistant foremen, supervisors from the cost, planning, time study, inspection and testing departments.) These men were chosen to study and work out plans for an extensive course of meetings for all of the six hundred supervisors, and thus prepare themselves to later act as leaders of other groups. The personnel of this group includes general foremen, foremen and supervisors of planning, cost and time study departments.

Organization of Group Chairmen's Meetings

These twenty men organized and decided to meet every Thursday morning from ten to eleven. Each member acts as chairman for three consecutive meetings, the men serving in alphabetical order. A permanent secretary was elected.

Synopses of various courses given by other companies and offered by outside concerns were studied. The group chairmen decided to develop their own course and thereby develop themselves.

Before any real constructive work was possible the men decided that they should determine:

1. The purposes of meetings, or
Why are we holding supervisors' meetings?
2. The scope of the meetings, or
What is to be covered by such meetings?
3. The methods of the meetings, or
How are such meetings to be conducted?

The Purposes of Supervisors' Meetings

The chairman asked each member to submit, in writing, his ideas concerning the purposes of supervisors' meetings. These papers were mimeographed and distributed to all the members who studied them, made notes, and were prepared to discuss them at the next meeting. After discussion a committee of five, including the temporary chairman and the secretary was appointed to combine and condense these papers. This condensed report was submitted to the members and after further discussion and changes was adopted. Following is the result.

Purpose of Supervisors' Meetings

We are to hold supervisors' meetings in order to—

1. Get the habit of creative and constructive thinking.
2. Obtain the correct understanding of the Company's ideals, policies and management.
3. Afford the supervisor, as an individual, a better opportunity to express his views concerning these ideals, policies and management.
4. Develop the fact that fundamentally, the interests of all Westinghouse employees are identical, and to promote these interests through the medium of intensified cooperation and sympathetic understanding.
5. Show more clearly the close relationship and interdependence existing between the supervisor's job and the work of all other departments, such as sales, engineering, purchasing, store-keeping, employment, rate, production, cost, inspection, testing, maintenance and shipping.
6. Broaden the supervisor's general knowledge of industrial problems, by contact with other supervisors and executives.
7. Give the supervisor a true perspective regarding his responsibilities and opportunities.
8. To develop the personal qualities of the supervisor, particularly with respect to leadership.

Each paragraph of these "Purposes" was handled in detail in the same way; each member submitting in writing his ideas concerning the paragraph; all the ideas being distributed to all the members; discussion of the paragraph; condensation by a com-

mittee; further discussion and final adoption of the combined and condensed ideas.

Up to the present time fifteen meetings have been held on the purposes of meetings.

PLANS FOR THE FUTURE

Each group chairman will soon be asked to hand in a list of all the subjects which he believes should be considered in the meetings with the six hundred supervisors. These subjects will be such as to accomplish the purposes already outlined, and will doubtless include such subjects as:

Subjects to be treated by the "discussion method."

I. *Men.*

A. The Supervisor Himself.

1. His place in the organization.
 - (a) Line and staff.
 - (b) His duties, responsibilities and opportunities.
2. Characteristics of a good supervisor.
 - (a) What makes an executive.

B. The New Employee.

C. Training Employees.

D. Knowing What the Employee Does

1. Measuring and rating employees.
 - (a) Performance charts.
 - (b) Service Records.
 - (c) Time keeping.

E. Knowing What the Employee Should Do.

1. Time Study and Rate Setting.

F. Recompense for What the Employee Does.

1. In actual earnings.
 - (a) Wage payment systems.
 - (b) Equal pay for equal service.
 - (1) Job analysis.
 - (2) Classification of jobs.
2. In opportunity and promotion.
 - (a) Transfer and promotion.

G. The Employment Department.

H. The Relief Department.

- I. The Shop Committee.
- J. Labor Turnover.
- K. Handling Men.
 - 1. Discipline.
 - 2. Morale.
 - 3. Analyzing the employe's personality.
 - 4. Methods.
 - (a) Leadings.
 - (b) Helping.
 - (c) Example.
 - (d) Self Interest.

II. Materials, Systems, Methods, etc.

- A. Building and Equipment.
 - B. Handling Material.
 - C. Manufacturing Costs.
 - D. Inspection & Scrap.
 - E. Tools.
 - 1. Repairs and renewals.
 - 2. For new product.
 - F. Stock and Storekeeping.
 - G. Planning Work.
 - 1. Production schedules.
 - H. Care of Machinery.
 - I. Keeping Records.
- Subjects to be treated by the "lecture method."

I. Industrial Economics.

- A. Applied to this Company.
- B. Supply and Demand.
- C. Labor Costs.
- D. Cost of Living.
- E. History of Industry.
- F. The Westinghouse Company.
 - (a) History.
 - (b) Facts about the company.
 - (c) Policies.
 - (d) Organization.
 - (e) Biography of a few company officials.

G. Labor, Management and Capital.

H. Strikes and Labor Troubles.

1. Unions.

I. Personal Finances.

1. Personal expenses.

2. Savings.

3. Investment.

J. Personal Hygiene.

When the group chairmen finally decide upon a list of subjects to be considered at the group meetings of the six hundred supervisors, these subjects will be taken up one at a time and handled just as were the various paragraphs in the "Purposes."

After about a year's training of this sort with the group chairmen it is planned that each will conduct meetings in just the same way as these meetings have been conducted.

Each leader of his group will so conduct his meeting as to get the men to develop themselves by working up their own course by means of papers presented, discussions, condensation of these papers by committees and finally by the issuance of a complete set of notes as a manual for supervisors.

Eastman Kodak Company

KODAK PARK WORKS

"At present there are four groups meeting, each group having one conference per week. There are two groups of foremen from our film finishing departments, and one group of forewomen from the same departments. One group of foremen and forewomen from our paper box department. Three of these groups meet at 1 P. M. and the fourth group meets at 5:30 P. M.

"The conference method, as outlined by the Federal Board for Vocational Education, Bulletin No. 36, is followed in these meetings."

FOREMEN'S CONFERENCES

The accompanying outline shows the subject matter of the conferences, but does not indicate the ground covered in any one conference. Thus II. 1. "Dealing with Infraction of Rules" covers two conference periods. With one conference period each week, at least six months is required to cover the work as outlined.

I. Responsibilities of the Foreman

1. The Foreman's Place in Industry
 - The business game
 - The business team
 - The team captain
 - Production
 - Competition
 - General industrial conditions
2. The Foreman's Job
 - What is a job?
 - Responsibility goes with a job
 - Doing and directing jobs
 - Managerial and supervisory directing jobs
3. The Foreman as a Supervisor
 - Supervisory jobs defined
4. Effective Supervision
 - How to supervise
 - What to supervise
 - When to supervise
5. Analysis as an Aid to Foremanship
 - Analysis defined
 - Kinds of analysis
 - Difficulties in making analysis
 - Needs for analysis
 - Using the analysis
6. Making a Responsibility Analysis
 - How to determine responsibility points
 - Covering all responsibilities

II. Responsibilities of the Foreman

1. Dealing with Infraction of Rules
 - Investigation
 - Prevention
 - Fair hearing
 - Circumstances
 - Warning
 - Point of view

Weighing the facts
 Employee's record
 Results
 Good will
 Cost
 Threats

2. Dealing with Poor Workmanship
 - Cause
 - Prevention
 - Remedy
 - Penalties
3. Dealing with the Undesirable Employee
 - What is an undesirable employee?
 - Getting at the cause
 - What can the foreman do?

III. *Qualifications of the Foreman*

1. Determination of Qualities
 - Physical
 - Mental
 - Volitional
 - Moral
2. Measurement of Qualities
 - Creating a standard
 - Self-examination
 - Comparison with standard
3. Means of Development
 - Physical exercise and health
 - Mental exercise and health

IV. *Responsibilities of the Foreman—Costs*

1. Cost Factors
 - Material
 - Direct labor
 - Factory expense
 - General expense

2. Analysis of Factors

Determining the elements which enter into the cost factors

3. Foreman's Control of Elements

Direct control

Indirect control

4. Ways and Means of Reducing Costs

General Electric Company

SCHENECTADY WORKS

"Groups of from ten to twenty foremen and assistant foremen meet daily for one and one-half hours for periods of about six weeks, for the discussion of production methods and co-operation between individuals and departments. Their work is divided into its fundamentals and thoroughly analyzed and discussed. The phases of foremanship training, as considered, include: The foreman as a supervisor; as an instructor, his relation to stock, equipment and finished product; the reduction of waste; consideration of elements of cost; ability to receive orders, give instructions, prepare reports and cooperate with other departments; and particular emphasis on human relationship in the management of men."

Acheson Graphite Company

"We have in our plant, as have four other plants of Niagara Falls, the system of foremen's conferences as developed by the Vocational Educational Board at Washington under the direction of Mr. C. R. Allen, who trained so many foremen for the Emergency Fleet Corporation during the war. In fact, we have employed Mr. C. R. Allen, who is conducting these conferences with thirty-two foremen in the Acheson Graphite Company and a total of one hundred and fifty-five in Niagara Falls.

"Under Mr. Allen's method apparently very little training is done other than to develop in the men the ability to think logically along the lines of their jobs under the headings of super-

vision and management. After these two headings are definitely defined and this definition agreed upon by all those in the class, each member brings up and cites actual instances covering such points as hiring, firing, instructions to the worker, instructions on safety lines, care of equipment, abuse of equipment, inter-departmental responsibilities, especially the taking over point of material from one department to another, keeping of records, making reports and some two hundred more foremen's responsibilities.

"Under this system each man works out his own outlines and definitions; and instead of having a text-book, the man writes his own text-book, and when the course is finished he has the best knowledge possible of his own individual responsibilities and duties. It is found that foremen recognize practically everything that is brought up, but they had not been able to call it by its proper name and coordinate it in its proper place as respects to other vital things.

"Immediately the man recognizes that he possesses this knowledge and that the purpose of the conference is to help him tabulate and outline, it creates the utmost interest that could be brought about in any way. They get the impression immediately that the conference is being conducted for their assistance; that they are not being considered as school children and are not to take the instructions as medicine on a doctor's direction."

E. I. Du Pont de Nemours & Co.

"Owing to reduction in forces at our various plants, we are at this time doing but little Foremen's Training Work. Our regular plan, however, is to carry on this work through our own instructors, and without assistance from Federal, State or other agencies.

"The content of our course covers the actual practical work at the plant concerned; it is presented through open discussion in class, guided of course by the instructor; and as far as possible foremen within the different sub-departments are grouped together in classes of not to exceed twenty to twenty-five.

"We feel we have obtained excellent results through this general plan."

Tennessee Furniture Corporation

"We have been conducting conferences at intervals of two weeks, aiming to bring the foremen, superintendents and general officers closer together.

"Such topics as centralized employment, inventory and requisition, personnel policy, the foreman's job, methods of training, production costs, etc., have been taken up at these conferences. They have been led by different plant executives, and the material to be discussed is handed to the foremen about a week before the conference.

"In addition to these conferences we have taken each foreman through a course of trade analysis for his respective department, along with the man who was preparing to become instructor in that department. This work has greatly enlightened the foremen as to the responsibilities of an instructor and has paved the way in most cases for active cooperation with the instructor."

Dutchess Manufacturing Co.

"We have been working out no hard and fast course. Our endeavor has been to take up, through the conference plan, such subjects as seem of particular concern to our foremen. These have always been subjects connected with the work of this factory, and the examples and cases we have chosen to build the conferences around have been taken entirely from our own experience. This has, perhaps, resulted in a less coherent outline of the winter's conferences than would have otherwise been the case. We believe, however, from the results which we have obtained with the foremen and forewomen that we were wise in our decision as to the choice of subjects. We are enclosing a brief outline of the subject matter which we have taken up with our foremen this winter, hoping that it may be of some assistance to you.

"In conducting this series of conferences we have made every endeavor to keep them always informal and to try to draw out of the foremen what we wanted them to get out of the conference rather than give it to them. This method, we feel, more and more sure as time goes on, is the most successful method of conducting foreman training. It necessitates, however, as you appreciate, small groups. We have divided our forty-five foremen and forewomen into three groups, two of the three being

mixed groups. We find the women just as ready to talk and as intelligent upon problems directly relating to their work as the men. We do find the men, however, somewhat keener in their grasp of the general problems of industry, also more facile in their mode of expression."

SUBJECT MATTER OF FOREMEN CONFERENCES

HELD AT THE DUTCHESS MANUFACTURING COMPANY,
POUGHKEEPSIE, N. Y.

Season of 1920-1921

I. *Job Analysis.*

Four or five conferences, depending on the group. List of duties written on the blackboard at dictation of the group and divergencies of procedure discussed and settled. Duties grouped under suitable headings by the leader and again presented to the group for criticism and discussion. The final draft adopted by the group became the Standard Practice Instructions.

II. *General Plant Information.*

Conference 1. Work of the employment service department; how it helps the supervisors and how the supervisors can help it.

Conference 2. The use of the records made in the factory by the payroll department and the importance of having these records accurately and promptly made. A description of how the payroll is made up each week.

Conference 3. A description of exactly how time studies are made, the forms used for making them, an analysis of the formula used in making allowances for delays and how this formula was developed.

Conference 4. The work of the production control department as it affects the progress of work through the factory. A description of how orders for work to be cut come to this department and how they progress through each department in the factory until the garments are completed and shipped.

Conference 5. A description of the problems of buying given by the head buyer. The reasons for odd materials and the demands for different styles and goods in different parts of the country. Drawings illustrating the several weaves of material.

III. Cost of the Product and How Cost Is Distributed to the Departments.

Conference 1. The cost of all the items entering into the making of one garment, bringing out the general methods of analyzing cost.

Conference 2. The cost of direct labor in a department.

Conference 3. The manner of applying the burden charge to each department.

Conferences 4, 5, 6. The cost of materials other than cloth and of miscellaneous supplies used in the workroom, followed by detailed discussion of the best manner in which a saving in thread and small supplies may be effected.

IV. Charts and Graphs and Their Use in a Factory.

Conference 1. How a graph is made, working out in conference on the blackboard a graph showing the groups of our own employes receiving specified hourly rates of wages on December 15, 1919, and December 15, 1920.

Conference 2. The same figures used in a percentage graph, the percentages being reckoned by the members of the group. The value of the percentage graph as against the graph showing actual figures.

Conference 3. Listing of the figures of production by two-month intervals since June, 1914; also of the number of employes by two-month intervals for the same period. Development of the use of index numbers to show a comparison of such sets of figures.

Conference 4. Working out of the index numbers on the figures used in conference 3 and the plotting of the curve from these index numbers, members of the group helping to plot the graph on the board.

Conference 5. The same index numbers shown in bar diagram form with a discussion of the value of the bar diagram in comparison to a line graph.

Conference 6. Examples of line graphs and bar diagrams brought into conference by the leader and members of the group. The figures of the cost of living since June, 1914, compared with the increase of wages since then in factories in New York State

and in our factory. Graphs showing these figures put on the board before the conference by two members of the group with no assistance. A description of how the retail prices on which the cost of living is based are gathered by the U. S. Department of Labor.

V. Various Problems of Handling People.

Conference 1. The cost of leaving a supervisory job undone to do chores which might be done with a little training by a lower paid person.

Conference 2. How to transmit orders so clearly that they will be carried out intelligently.

Conferences 3 and 4. The working out of rules of conduct for the workroom which are fair and can be enforced.

Conference 5. Like treatment of all workers as the basis of obtaining good conduct in the workrooms.

Conferences 6 and 7. The treatment of carelessness in the workrooms, developing the need for a careful analysis in each case of whether the fault is really carelessness and the necessary action in each type of case.

Conference 8. How to decide by the figures showing production, quality and length of service, and attendance and conduct which worker should be transferred from an overmanned operation.

VI. Special Problems of Production. (Discussed only with group of production supervisors.)

Conferences 1, 2, 3. The presence in the workrooms of too much goods in storage in process. The economy of reducing this amount of goods in process. The working out of practical methods of reducing the amount of goods in process. A discussion of how the new methods adopted are working out.

Conference 4. A demonstration of how to increase the production in a large department containing a certain number of idle machines by adding operators from a small department. By the use of production records for each operator, this was worked out accurately and the production was increased by the addition of the exact number of operators of stated efficiency needed.

General Notes.—All material used in these conferences is taken from our own factory experiences or records. Series I and II are completed with our present groups of supervisors. There is, of course, no limit to the number of conferences which may be held on Series V or VI, and new topics in these series will be developed week after week indefinitely. Series III and IV can and will be further developed and continued so long as the interest of the group in these subjects is maintained.

Submarine Boat Corporation

They say in explanation of the course: The course was originally developed from a group of foremen who were well familiar with plant practices and policies. An extensive analysis of our foremen's work was made by this group and developed into the present course. "You will note that under each given section is applied the sub-heading "errors," "causes," and "remedies." Each responsibility has been attacked individually, after first ascertaining by discussion whether it was a specific responsibility or foremen in the organization with which we were dealing; if a negative conclusion was reached, we proceeded no further with that responsibility but went on to the next one. It usually works out, however, that all foremen are held, either directly or indirectly, responsible for the different items that are included in the outline. When the responsibility has been determined we have then covered, in a general way, the possibilities that hinge upon proper performance and the probabilities that result from improper performance. This is a result of a purely general discussion taking some twenty minutes to a half hour, after which we deal with the specific errors that may occur, the causes of these errors and finally the methods of overcoming them and preventing their reoccurrence.

FOREMANSHIP TRAINING COURSE

**AT NEWARK BAY SHIPYARD
SUBMARINE BOAT CORPORATION**

1. *Preliminary*
 - a. The "Production Army"
 - b. Organization of the Company

1. The stockholder
2. The Board of Directors
3. The Management
4. Departments and Department Heads
5. Superintendents
6. Foremen (the non-commissioned staff)
7. The Workmen
- c. Major Operating Factors of an Industrial Plant
 1. The man factor
 2. The material factor
 3. The equipment factor
- d. Major Success Factors of an Industrial Plant
 1. Production (quality and quantity)
 2. Cost

2. The Foreman's Job

- a. Production jobs vs. supervisory jobs
- b. Foremanship as a trade
 1. Methods by which trade knowledge is acquired
- c. "Foreman"—"First man"—the leader
- d. The Foreman as a supervisor
- e. The Foreman as a manager

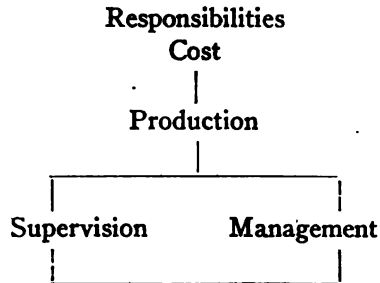
3. The Function of the Course

- a. To view the foreman's job in the perspective
- b. To develop keener appreciation of its responsibilities
- c. To coordinate performance of these responsibilities

4. The "Trade" Analyzed

- a. The jobs in the trade (his responsibilities)
 1. He inspects material and equipment
 2. He instructs men
 3. He selects men, material and equipment
 4. He gives and receives orders
 5. He distributes work, material and equipment
 6. He cooperates
 7. He creates and maintains interest
 8. He keeps records and makes reports

9. He keeps turnover down
10. He plans in advance
b. The analysis charted



Men	Materials	Equipment
Cooperation		
Selection	Selection	Selection
Distribution	Distribution	Distribution
Inspection	Inspection	Inspection
Interest		
Care	Care	Care
Instruction		
Attendance		
Records	Records	Records
Reports	Reports	Reports
Labor turnover		
Orders		
Giving		
Receiving		
Planning	Planning	Planning
Self-improvement		

5. Cooperation

- a. Cooperation vs. Acquiescence
- b. Advantages of cooperation to foremen
- c. Effects of poor team-work
- d. The foreman's field of cooperation
- e. Errors in cooperation
- f. Causes of these errors
- g. The causes overcome

6. Selection—Men

- a. Initial selection
- b. Test on job
- c. Effectiveness measured by—
 - 1. Mortality during test period
 - 2. Mortality after test period
 - 3. Length of test period
- d. Errors—Causes of errors—Remedies

7. Selection—Material

- a. Selection by rejection
- b. Faulty selection and costs
- c. A cooperative job usually
- d. Errors—Causes of errors—Remedies

8. Selection—Equipment

- a. Tools and the job
- b. Direct and indirect selection
- c. Errors—Causes—Remedies

9. Distribution—Men

- a. Men over work—work among men
- b. To meet schedule
- c. To maintain interest
- d. Errors—Causes—Remedies

10. Distribution—Material

- a. Handling costs
- b. Orders vs. Confusion
- c. Getting a “corner” on material
- d. Errors—Causes—Remedies

11. Distribution—Equipment

- a. Foremen and the tool-room
- b. The foreman and stationary equipment
- c. Getting a “corner” on small tools
- d. Errors—Causes—Remedies

12. Inspection—Men

- a. Inspection and supervision
- b. Men and work

- c. Checking up the inspection
- d. Relying on the inspection of others
- e. Systematic inspection
- f. Errors—Causes—Remedies

13. *Inspection—Material*

- a. The inspecting department
- b. Material in process
- c. The "gang's" responsibility in inspection
- d. Errors—Causes—Remedies

14. *Inspection—Equipment*

- a. The safety factor
- b. Preventing breakdowns
- c. Errors—Causes—Remedies

15. *Care—Men*

- a. The human factor
- b. Production and lost time accidents
- c. Carelessness (occasional, habitual)
- d. Errors—Causes—Remedies

16. *Care—Material*

- a. Waste
- b. Abuse
- c. Loss
- d. Errors—Causes—Remedies

17. *Care—Equipment*

- a. Equipment and production
- b. Preventing breakdowns
- c. Carelessness and abuse
- d. Errors—Causes—Remedies

18. *Interest*

- a. Can foreman make the job interesting?
- b. Compulsion vs. interest
- c. Interest and production
- d. Some interest factors
- e. Errors—Causes—Remedies

19. *Instruction*

- a. The foreman as a teacher
- b. "Teaching" and "telling"
- c. Who is the "blockhead"
- d. Instruction analysis
- e. Instruction methods
- f. "Showing how" vs. developing "work intelligence"
- g. Knowing when the teaching job is accomplished
- h. Errors—Causes—Remedies

20. *Attendance*

- a. The cost of absence
- b. The foreman as a cause of poor attendance
- c. Interest and attendance
- d. The value of attendance records
- e. Errors—Causes—Remedies

21. *Records—Men—Material—Equipment*

- a. Company records
- b. Personal records
- c. The value of permanent records
- d. Systematic record-keeping
- e. Eligibility as a cost factor
- f. Errors—Causes—Remedies

22. *Reports—Men—Material—Equipment*

- a. Common and special reports
- b. Eligibility and intelligibility
- c. Errors—Causes—Remedies

23. *Labor Turnover.*

- a. The Foreman and labor turnover
- b. Causes within foremanship control
- c. The cost of replacement
- d. Errors—Causes—Remedies

24. *Orders—Giving*

- a. The "high points" in giving orders
- b. Results of improper giving
- c. Errors—Causes—Remedies

25. *Orders—Receiving*

- a. Orders and instructions
- b. Standing orders
- c. Current orders
- d. The penalties of improper attention
- e. Checking back
- f. Errors—Causes—Remedies

26. *Planning—Men—Material—Equipment*

- a. The basis of good foremanship
- b. Planning a managerial function
- c. Planning vs. hand-to-mouth conduct
- d. The "What," the "How" and the "Do it"
- e. Errors—Causes—Remedies

27. *Self-improvement*

- a. Self-analysis
- b. Realization of shorts
- c. Trade improvement
- d. Literature, schools, lectures, trade societies
- e. Knowledge and progress

The National Cash Register Company publishes in a booklet entitled "Rules for Success" the following:

TEN COMMANDMENTS FOR FOREMAN AND JOB FOREMEN

- 1. Be an optimist. Confidence is infectious.
- 2. Make few promises. Keep every promise made.
- 3. Every question has two sides. Always hear both.
- 4. Study your men. Put each where he can do his best work.
- 5. Never show discouragement. A stout heart will never say die.
- 6. Don't hold spite. Correct when necessary, but forgive afterward.
- 7. Notice good work as well as bad. Give both credit and blame justly.
- 8. Be fair. A foreman often has to act as judge, and therefore must be just.

9. Control yourself. Anger is too valuable to use except on special occasions.

10. Take your full share of the blame. Sharing both blame and praise with workers is a big part of the secret of managing men.

The bigger the man the more child-like is his nature. He is more easily approached. He is more charitable. He is never hurt by criticism. He never criticizes except to help. He is always open to suggestion. He is always ready to assist the unfortunate. He can hurt no one without hurting himself; no one can hurt him without hurt to himself.

JOSEPH H. APPEL, in "My Own Story."

One member Company, whose policy is that its name shall not be used in connection with any of its industrial relations activities, gives the following interesting re-action:

"First: Employing an outside industrial engineer who specialized on foremen training work, giving a series of twenty lectures. This was not satisfactory, due to the fact that the lectures and material used was too general and not specific or in line with the conditions prevailing at the particular works where the course was carried on.

"Second: Availing ourselves of the services of a specialist on foreman training employed by the State, who conducted a series of 'discussions.' A definite subject for discussion was outlined for each meeting and the foremen attending the meeting described in detail the present conditions existing and what could be done to improve them. The man in charge of the foremen training work merely guided and directed the conversation and at the end of each meeting definite recommendations as to changes were drawn up and submitted to the Works Manager for approval.

"Third: A large number of the executives of one of our works have subscribed to a foreman training course, covering a period of two years. We have just started with this work and cannot advise you the success we will have with this method.

"That we have been more or less experimenting with several different ideas and from the above statements can plainly see we are very much in favor of the second method."

Atchison, Topeka & Santa Fe Railway Company

"While this road had a good devised scheme for training of foremen, the advent of the federal control of the railroads and matters incidental thereto caused us to abolish it. The adoption of the present National Agreement by the railroad administration prohibited us from doing anything towards specifically training men for such positions. As much as we would like to do so, our hands are so tied now that we don't care to do anything. We feel, however, if the railroads are given freedom that we will return to our former method of training our shop foremen as well as other staff officers."

American School of Correspondence

The following Standard Test for Foremen, prepared by Mr. James McKinney, of the American School of Correspondence, is submitted for the interest of the members of the Association. It stands as a very effective check-up of job responsibilities.

Mr. McKinney's idea in connection with the development of these tests is tied up in two points; First, the effort to create standards for our own courses of training; and, secondly, that we shall use these standards as a test for passing on a man's ability when we enroll him in our Employment Service.

STANDARD TEST FOR FOREMEN

Management

MATERIAL AND EQUIPMENT

(Answer the Following Questions in Terms of the Material and Equipment with Which You Are Familiar.)

1. Outline a procedure for getting stock out of storage.
2. Methods of storage; (a) raw stock; (b) stock in process; (c) finished product.
3. In sorting stock, what are some of the factors that must be considered?
4. How do you handle your waste product?
5. Suggest a plan for the prevention of accidents due to carelessness.
6. Describe the most important records you have to keep, and state why they are important.

MEN

1. A new piece-work price has been set on a certain job. Before giving it a proper trial, the workmen are protesting that the price is too low for them to make the established rate. How should a foreman handle this problem?
2. How shall a foreman handle a delegation of workmen who are protesting against the establishment of a new rule regarding methods of handling work?
3. Give some suggestion for checking up the ability of workers at the employment office.
4. How would you deal with an employe when it is necessary to have him work at other than his regular work, whether in his own or other department? Should the employe be informed regarding how long he will be on the new work and what his wages will be?
5. What should the foreman's attitude be toward the employe who is unsteady and who never explains his absence until he returns?
6. Give a plan for a harmonious working relation between the employment office and the foreman in the matter of hiring and firing workers.
7. An employe goes home, say, at 10.30 A. M., leaving a note for his foreman, claiming that he is sick, but fellow employes state that no signs of sickness were observed. Should this man be reprimanded or discharged?
8. How should a foreman deal with a man who is an excellent workman but who is always carrying matters over the foreman's head?
9. State some of the ways you have effectively met problems of (a) tardiness; (b) absence.

SUPERVISION

1. Outline a plan for periodic inspection of equipment.
2. What is your plan for taking care of repair of equipment?
3. In supervising a job, what factors would determine where supervision is most needed?
4. Select a simple job and outline the foreman's responsibility points on it.

5. What in your opinion are the main factors in getting a worker to deliver a fair day's work?

INSTRUCTION AND PROMOTION

1. Describe in detail a method, with which you are familiar, for transferring and promoting men.
2. What are the qualifications of a good shop instructor?
3. Outline a plan for the induction of new workers so that the adjustment to the job is made both easy and rapid.
4. What is the function of an instruction department, or an individual instructor? How does it differ from the production department's job?
5. In giving orders about a job, either verbal or written, what definite questions must be considered?

AUXILIARY KNOWLEDGE

1. What is the foreman's place in modern industry? To what extent is he a manager? a mechanic? an employment manager?
2. Give at least three reasons why the foreman should be acquainted in some degree with the problems that confront the management in industry.
3. List the qualifications of a first-class foreman and discuss them in detail.
4. Show by a chart the lines of responsibility and authority of a business organization with which you are familiar and designate the type of organization which you illustrate.
5. What is a graphic report? What should it show on a production job? What advantage does it have over other forms of reports?
6. What is a job analysis? What facts about a job analysis are of special interest to the foreman?
7. What is the function of a shop safety committee? Outline a plan of organization.
8. Discuss Profit Sharing and Mutual Benefit Associations.
9. What is labor turnover? What are the causes of a high labor turnover? How can a foreman help in reducing labor turnover?

10. Describe the essential characteristics of the following plans of employe representation:

- a. The Shop Committee System,
- b. The Works Council System,
- c. The Parliamentary System.

11. Outline the growth of the company with which you are now working.

12. Is information of this type important to the foreman? Give reasons.

PREVIOUS REPORTS

The Committee further calls attention to the outlines contained in last year's report on Foreman Training, although it is believed that most of the courses presented therein were very broad and of the more general nature, coming under the head of "Foreman" Training.

THE COMMITTEE'S INVESTIGATION

The Committee desired to present a wide variety of outlines to the members of the Association for their examination and consideration. With this thought in mind the following letter was sent out to about 110 members of the Association:

Dear Sir:

"What are you doing about *Foremanship Training*? This sub-committee desires to present to the members of the Association the greatest variety of foreman training plans that each may know what the other fellow is doing and thereby improve his own plans or select a plan suited to his specific need.

"We want to know about the content of *your* course, the method of presentation, the organization of groups, whether you are running the job alone or in conjunction with Federal, State or other agencies and such other information as your time and inclination will permit you to forward.

"Foremanship training continues important and apparently has its '57 varieties.' We will catalogue the variations if you will submit the plan you are using and others do likewise.

"If you're with us, '*cooperate*.' I'll look for your answer by April 1st."

(Signed) HARRY H. TUKEY,
Chairman.

Fifty-nine replies were received to this letter. Of these thirty-three indicated active conduct along some one of the lines previously indicated in this section. Twenty-two indicated that they were not conducting any foreman training activities whatever, although the major portion of this group evidenced a high interest in the work and mentioned a possible future conduct of such work. In four cases the letter was acknowledged but information deferred until the return of the party to whom the letter was directed. This leaves fifty-one who did not respond to the request for information.

The Committee realized the annoyance that is frequently caused by extensive questionnaires and, therefore, endeavored to avoid this method of gathering information and purposely shaped its communication so that the information desired could be given briefly, without loss of time to those who were addressed. Entirely aside from the Committee's personal interest in this type of training, it is a well-established fact that there is no phase of present-day industrial training which is commanding more attention than that which this Committee has been charged to investigate and report upon.

It is our understanding that one of the objects of the Association is to gather and distribute information pertaining to training among one another for the mutual benefit of all. The Committee respectfully recommends to the Executive Committee of the Association that ways and means be considered to induce greater interest in the activities of the sub-committees and greater cooperation in the preparation of their reports. At the same time the Committee extends its sincere appreciation to those who have contributed their part to the success of the report.

PART III

Methods

By MR. C. R. DOOLEY

School desks, blackboards, text books, and a teacher selected for this experience in some public or private school, do not necessarily constitute an efficient school for training employes—in fact, such an equipment is very apt to do more harm than good. The discussion of methods is apt to lead quickly into a great complexity of detail instructions which, by the way, is the great fault of public school education, generally. It is not the purpose of this report to set down a multitude of rules, but rather to point out a few broad principles to be followed, leaving the details to be developed to suit local conditions.

As has been suggested elsewhere in this report, a training program has two distinct functions to perform—first, to impart a certain amount of information which has been proved and standardized as the best practice; and, second, to develop skill, originality, and resourcefulness in applying this information to the practical situations which arise day by day, and of which no two are exactly alike. The proportion of these two functions varies greatly. For example, in training a riveter there is little else to be done than to show him the most efficient way to do his work, whereas in training a foreman, the major emphasis should be laid upon personal qualities rather than technic. In passing, it should be remarked that the foreman possesses at least two distinct kinds of technic, first, that which has to do with his mechanical skill—his ability to take hold of a piece of work and do it in a workmanlike manner; and, second, that which has to do with the handling of people—his knowledge of human nature—manufacturing routine, company policies, etc.

Assuming that the great majority of foremen are skilled in the mechanical processes of their work, how then shall a training program be set up which will not only impart the knowledge which a foreman should have about the business and routine of handling it, but will develop his power as a real leader of his men or, in a word; *a foreman*.

The very first essential in any training program is the selection of the men to be trained. No one has yet devised even a satisfactory method of selecting men, and some very bad methods have been promoted, bad largely because they definitely state (or cleverly infer) that an exact science of this matter has at last been found. If one having the responsibility of selecting men will study the various methods proposed with an open mind and use some of the suggestions which seem to fit in with his own experience, he will not go far astray. The following points, however, may be stated concerning the selection of foremen. Blood-relationship has nothing whatever to do with foremanship; neither does politics nor religion. Likewise, a man may be a splendid member of the baseball team, and a poor foreman. As has been stated, the foreman must be a good workman, otherwise he cannot hold the respect of his men. But because a man is a good workman it does not necessarily follow that he will make a good foreman, because foremanship entails other qualities such as systematic habits, ability to lay out and plan work, a sense of efficiency in organization, an appreciation of accurate records, costs, etc.

All too often are men chosen as foremen because of their skill in one particular line and their faithful and punctual service in the company. These are, of course, essential qualities, but not in themselves sufficient. In sizing up a candidate, many of his qualifications, such as the workmanship, faithfulness, popularity, etc., are matters of record, and by close study of this record a fairly accurate estimate can be made of his analytical ability, sense of responsibility, ability to plan in advance, systematic habits and other qualities which he will need as a foreman but which he has so far only had occasion to use incidentally. A great deal can be learned about a man in these respects by a study of the things that interest him outside of working hours.

In considering leaders of men, there are many desirable personal characteristics, and each interviewer will emphasize different ones—there can be no one standard list of these qualifications for all interviewers to use. Any one responsible for selecting men will do well to adopt some list of qualifications which he believes more or less describes a man—a list absolutely free from

personal prejudice. In general, the following qualifications may be considered in selecting men for executive positions:

1. *Moral Fibre*.—Integrity, honesty, reliability, dependability, a spirit of helpfulness, modesty, refinement, ability to work in an organization, cooperation, tactfulness, etc.—in short, those things which make a man liked and respected and trusted among his fellowmen. He is acceptable.

2. *Leadership*.—Originality, initiative, resourcefulness, vision, ability to discriminate between essentials and non-essentials, courage, readiness to accept responsibility, understanding of men, etc.—in short, those things which designate a man as an original contributor in some way to the world's progress. He gets things done.

3. *Technic*.—Technical knowledge, special experience, kinks of a trade or profession, data, formulæ, etc.—in short, those facts which he acquires either from books or from experience. He knows how.

To summarize this again in the reverse order, the third represents the required tools with which he works, the second is his ability to use these tools, and the first is his character or, in a sense, his passport which permits him to work with the rest of us.

The majority of foremen have these qualifications. It is the purpose of foremanship training to develop them to a higher degree, and that method of training should be adopted which, in each case, will develop to the highest degree the first two mentioned above. It is, of course, understood that some attributes are of such an intimate personal nature, inherent in some men, that they are quite outside the range of training—for example, a man may be totally unsuited as a foreman because of his uncontrollable temper, which is so essentially a part of him that it would be useless to try to change him.

The third qualification, *Technic*, includes both the technic of shop-practice and the technic of foremanship, the latter of which is essentially a part of foremanship training, but the former is a prerequisite of foremanship and should not be considered in any training program, except in so far as it may serve to burden his sphere of understanding of the operations throughout the plant as a whole.

Any training program to be effective must be stimulating, it must be interesting and, therefore, must be intimately hitched up to practical every-day life. Nothing is so uninteresting as cold facts, but they can be made very interesting if a definite action is required on the part of the student. In other words, more information can be most rapidly assimilated if presented indirectly, and, fortunately, this method of presentation requires the exercise of those personal and mental qualities of perseverance, resourcefulness, initiative, imagination, etc., which, after all, make up the mosaic which we call "personality," and which is the most vital factor in leadership. To state this principle concretely:

Information should be presented to students in the form of jobs or problems or projects or questions, and these should be presented in advance of formal explanation of methods of solution.

Fundamental principles and their free application through native originality should form the entire teaching program. Originality is the most precious thing in the world; it sets the human race distinctly apart from everything else. Obviously, disorganized and uncontrolled originality leads to confusion and ruin, and yet civilization, in its effort to harness this wonderful force, has so bound it with laws and conventions that the divine spark is often stifled.

Speaking in general terms, sooner or later fixed habits get the best of all of us. We eventually succumb to form. As we gather tradition our respect for them increases, and by and by, as old men, we live in the past. This is the whole trouble with teaching. We teach foremen how things have been done instead of developing their ability to do. We standardize form to be memorized. We not only standardize arithmetic, but we standardize the method in which it shall be presented, adopting a full set of technical terms. For example, when the young student finishes simple interest in the public schools he turns over a page and begins compound interest, which he has heard from his fellow students who are a grade ahead of him, to be exceedingly difficult. Now the fact is that, mathematically speaking, there is no such thing as compound interest. It is only simple interest repeated with a new principal. The new principal is the old prin-

principal plus the interest for a given period which a man has been unable to pay when it was due. The reason that it is due on a given date, and after that it becomes a part of the new principal, is purely a matter of custom among people, and has nothing to do with mathematical principals. If this was explained in connection with problems in simple interest and then the same "compound interest" given merely incidently as a convenient term to use in talking about such a problem, the whole subject of compound interest would disappear. The same thing is true of electricity. Some of the electrical theory is complex and difficult, but a great deal of it is exceedingly simple when stripped of its mysterious terms.

The average shop mechanic pays profound respect to a piece of blue paper covered with white lines, and yet blueprinting has nothing to do with mechanical drawing, but is only a means of cheap duplication. Even the principles of drawing are mystified by a technique called "projection." Mechanical drawing is a language used to express ideas in terms of flat surface pictures and is not a matter of beautiful lettering and shading of lines. The fundamentals are as simple as arithmetic and could easily be taught in the grammar grades without either blue paper or expensive drawing tools.

We continually shroud ourselves in technical terms and endeavor to force young people to memorize them, and in so doing we tend to crush what originality and initiative they have in the beginning. In training foremen only fundamental principles should be considered and great emphasis placed upon their correct application to original problems, free from traditions and customs.

We are disturbed at our family table if we do not sit at our accustomed places, when the important part of the meal is the food and the conversation, not the chair. In church we are extremely annoyed if a stranger occupies our pew, when the one vital factor is the inspiration and counsel obtained from the speaker. We fuss about our letterheads and the kind of paper the stationer sent us, when the important thing is the idea expressed in the written words. Of course, as society is organized, a certain amount of form is called good. We must have correct spelling and some style to our dress, and yet the moment form

begins to add to our dignity rather than our efficiency, we begin to stifle initiative and originality. All of this is a very round-about way of saying that in our training processes we must first of all develop what we may call *industrial intelligence* and not merely require routine memorized formula and standardized methods. We must encourage men to vary from things as they are today. We must stimulate the research point of view, the habit of eternal inquiry after better ways, for only through this can we ever hope to develop the leaders of the future. It can be done normally and without forcing by beginning with the work, or the job, and by the teacher approaching the student with a discussion of many questions about his job. If the student arises to the occasion and comes back with original contribution, you know he is growing, and it is your business, employer as well as teacher, to keep him growing just to the limit of his capacity.

Some men will never respond greatly, and, therefore, will continue in the routine performance of their present work. All of us cease responding sooner or later, and thereby we find our level. The trouble with our schools has been that they artificially pull people above their levels by forcing memorized formulae. The trouble with industry has been that it artificially holds men below their levels through lack of opportunity to really study out the science underlying their work and through arbitrary authority. When these two things are brought together—when the spirit of the teacher pervades industry, and the spirit of production furnishes the background for education—then all people will find their levels automatically, and remain there without chafing under arbitrary authority. To make this function practical in any organization, two kinds of foremanship training must be provided.

First. That which young men just starting into the business are obliged to take because of a company's determination to select and train for efficiency.

Second. That which any man in the business who is ambitious to improve himself, may take according to his own option.

In both cases, however, the method of teaching should be the same and should have a three-fold purpose:

First. To inspire the highest quality of American manhood,

although if a man has not a fine moral fibre, integrity, honesty, reliability, etc., he is not worth the trouble of training.

Second. To discover and develop personal power in the use of knowledge under new and trying circumstances.

Third. To establish a certain amount of accurate fundamental knowledge.

Before proceeding to the details of several alternative methods of instruction, a word as to instructors will not be out of place. An ideal instructor is a mere referee who decides disputes and sees to it that the men do not get wrong information. He insists that the answers to all questions be deducted from the personal experience of each man and by continually quizzing he keeps the men going in the right direction.

A lecturer is the poorest kind of teacher for developing real personal power. Occasionally a lecture or talk given by some officer or expert has a good effect by way of general inspiration, but this part of an educational program should be a small per cent.

The best kind of teachers are men selected right from the offices or the shops—each man an authority in his subject. All men who are competent workers do not make good teachers, but all teachers should be competent in their work or profession, and should be engaged in the practice of it, giving a portion of their time to teaching.

In addition to being competent at work, a teacher should have an inspiring personality and an enthusiastic way about him which gets under the skin of men. Generally, a man who is competent at work and who expresses a keen desire to teach purely for the love of helping men, makes a good teacher. Such a man should be young enough to still be flexible so that the head of the training department can mold him in the understanding and practice of this general philosophy of teaching. He must be interesting, and his class meetings must be interesting.

The following methods are suggested with some comment as to their good and bad features and their adaptability to certain specific situations. The one test of satisfactory method of training lies in its power to stimulate men. There is something wrong with any method which leaves the men bored and uninterested.

1. *Lecture Method.* This usually involves formal lectures by

staff experts or prominent men drawn from the outside. The groups, as a rule, sit and listen; often they only *sit*, for the technicalities of the expert are unappreciated and usually pass over the heads of the group. It is, of all methods, the least effective, as it produces the least interest, and little real thinking is compelled or even required.

2. *Method of Illustration.* This method includes the use of motion pictures or other illustrative material, such as models, designs, etc., and has its greatest value when the aim is to illustrate shop processes, departmental procedures, correct and incorrect methods of doing work, explaining record systems, informing of safety hazards or safety methods, etc. As most of us are interested in the movies, this method has a natural higher interest value than the lecture method, a combination of the two is more effective than either. The method of illustration may be used very effectively as supplemental to other methods herein mentioned. It loses much of its effectiveness, however, when unaccompanied by explanation.

3. *The Development Method.* This method involves a promoted discussion conducted under the leadership of one who is familiar with the actual conditions under which the foreman operates—who is, preferably, a former foreman himself, and who has been trained in methods of teaching and is capable of developing from the group the responsibilities and duties of their jobs. This method will be effective in proportion as the group is large or small, and, naturally, least effective in the larger groups. Its results are further measured by the accuracy of the analysis that the instructor makes and is only effective from a *training* standpoint when followed up by assistance and instruction in the performance of correct methods as developed in the classroom instruction.

Of the methods mentioned, the development method is by all means the most satisfactory, but also the most difficult for the instructor—it takes time and much patience. For the superintendent to carefully explain to his foreman all of the difficulties which the foreman is about to encounter during the day, or to explain nothing, but merely to storm at him at the end of the day after he has made a mistake, are both easy things to do. The right thing to do and the difficult thing to do is to give just

enough fundamental information at the beginning to set the boundaries or policies within which the foreman is expected to act, and then, at a later time, to discuss with him the details of his experience in a way which will help him to analyze them and come to his own correct conclusions. Many department heads object to continually instructing new men and losing them even to other departments within the same organization; they prefer low grade men who "stay put" to men of larger ability and ambition. This method will show that all men are better than had been supposed and that some are a great deal better. When this process becomes too burdensome to the executive staff, it is time to set up a special training school.

The old "sink or swim" method produces poor swimmers and many drownings. On the other hand, too many swimming lessons given on land take all of the spirit and initiative out of men by teaching them the details of how swimming is done, but never how to swim.

4. *The Shop Conference.* Some educational result may be obtained from the use of this method, but the discussion usually concerns production problems, and the method is only mildly and indirectly effective from a Foremanship Training standpoint. It serves its own purpose admirably, but this purpose is a production purpose carrying little real training or even instruction value.

5. *Apprentice Method.* At various conferences and conventions, company representatives have stated that their foremen were developed from trade apprentices, some even going so far as to say that their apprenticeship training program was primarily intended to develop foremen for the organization. This is not strictly a *Foremanship* training method, except so far as it is perhaps a means to an end. However, it seems that an apprentice training plan that had as its aim the development of foremen must have an aim that reaches so far into the future that it will overshoot its more immediate mark—that of training apprentices. Undoubtedly, many of our foremen may develop from apprentices, but their foremanship training is a totally different proposition than their apprenticeship training.

6. *Outside Agencies.* There are several organizations which make a business of training foremen. Some of these organizations have been exceptionally successful and have established a

large clientele. The advantage in their selection lies in the fact that they are specialists in their particular type of work. The greatest disadvantage lies in the fact that they present the same standard course with only minor variations in all types of industry, be it iron foundry or mattress factory. Obviously, the results cannot be as effective as when the course is developed from within an organization by one who knows the organization intimately and who has been trained to teach.

The above simply outlines a group of possibilities; the first three mentioned are teaching methods by which foremanship training may be presented to foremen regardless of the agency which is utilized. The latter three are agencies in themselves which may use any of the first mentioned methods.

Obviously the selection of teaching method will be governed largely by the aim of the course and by the conditions under which the training is given. Generally, the development method is the most successful, for it compels real thinking. With certain kinds of courses having certain aims, the other methods mentioned may prove satisfactory. Thus, if the intention is only to inform of Company policies, departmental procedures or to give general information, the lecture method may suffice, for no thinking is required. If our aim is only to bring to the fore incorrect shop practices, unsafe shop methods or conditions, activities of other organizations, etc., we may well use the method of illustration. If, on the other hand, we desire to get foremen thinking about their responsibilities, the duties of their job, and their relations to those above and below them, the development method only will give satisfactory results.

Shop conferences may indirectly develop better foremen. They are not organized for the training of foremen, however. We may obtain foremen from among our apprentices, but the real aim of apprenticeship training is to develop good mechanics, and all mechanics have not foremanship ability. Outside agencies are a convenience. They are more effective than no training at all, but not most effective. The job can best be done by selecting the most capable foreman within the organization, who can be taught to teach, and send that foreman to any one of the various agencies which are established through the Federal Board for Vocational Education where he may be trained in the art of

teaching. When he is returned to your organization, you will find that he will conduct foremanship training that is suited to your particular needs.

Having selected the men to be trained and the teacher, it is now essential to block out, at least roughly, a program of subject matter and a schedule of time. The subjects to be taught can best be gotten from the experience of the men within the plant organization. Obviously, sound experience must be culled out from the hundreds of notions, and, as a rule, this can best be done by appointing a committee composed of a small number of older, well-balanced foremen who thoroughly understand the problems, limitations, and needs involved in foremanship. Such a committee presided over by the educational director, who is in touch with the best theoretical discussion of the subject, can readily develop a tentative program which, when put into practice, will develop weak spots, which in turn can be corrected by experience. The foreman is primarily interested in his everyday problems; therefore, these problems should form the basis of the subject-matter. The program of subject-matter, in short, should be built around men, materials, equipment and system. With this as a foundation, the discussions can best be presented in terms of the things the foremen have to do in dealing with these four items.

From the discussions around the subject-matter, general deductions can be made and, thereby, indirectly the men will become interested in fundamental solutions, which they would never do if these solutions were not presented abstractly and academically. Above all, the subject-matter should not be prescribed out of a school catalogue or a library of text-books; although a suitable library, as reference reading, is a splendid thing to have at hand. And speaking of libraries—they should not be installed in a closet in the office of the superintendent or vice-president, but should be placed in the shops within easy access of the men of the training group.

As to detail of schedule, little can be said beyond the fact that individual instruction pays tremendous dividends. Hence the group should be small—in general, ten to fifteen men is sufficient for one instructor to handle, and this number will encourage the freedom of discussion and a thorough understanding

between the men and the instructor which never could be attained by larger groups.

As a rule, one meeting a week for a period of two hours is sufficient for group instruction. And in this way one instructor can handle three to five groups a week—approximately one a day. The balance of the instructor's time should be free, not only to prepare discussion details, problems, questions, etc., but to mingle among the men in a systematic follow-up plan, to insure that the principle worked out in a discussion actually fit the practical needs of the men, and stimulate them in applying these principles, and not drifting into the habit of forgetting school work outside of the school hour.

The foreman has regular duties to perform and cannot give all his time to his instruction, but, on the other hand, the foreman who is not willing to give a little of his own time may not be worth training. If meetings are to be held upon "company time," it is usually true that the two hours immediately before or after the lunch hour are the most satisfactory from both the instruction and production viewpoints. It has also been found advantageous to start the meetings late in the afternoon so that the first hour is taken off the regular day's work and the second hour comes as overtime. This may be shifted to an hour and a half from the regular day, and a half hour overtime, and in many cases might easily be arranged entirely within the day's program. It is all a matter of maintaining genuine, personal interest on the part of the men.

The closer the training course can be tied to the foreman's job, the better the results. Each and every phase of his activity should be touched in the development of right and wrong action. Often the correct method will be determined by allowing an incorrect method to develop, working from negative to positive. When a training program is thoroughly permeated with practical examples, there will be no difficulty in assigning older and younger foremen to the same group. Once each man's interest is removed from himself and fastened to his job, the personal element largely disappears. Here, again, the personality and temperament of the instructor is of vital importance. Of all men in a plant, he must be one who takes himself incidentally and his job seriously.

MR. CHARLES R. ALLEN (Niagara Falls Chamber of Commerce): Mr. Tukey has just stated that the plan which has been worked out here in Niagara Falls has been through a combination of four plants, the Acheson Graphite Company, the Niagara Falls Alkali Company, including the Electro-Bleaching Company, which is connected with the Alkali Company, the Union Carbide Company, and the Carborundum Company. The work has been of the very specific type, which Mr. Tukey has characterized in the report as foremanship rather than foreman training.

I have been working with groups of about fifteen foremen and other minor executives. The general theory on which the work has been developed has been to promote more effective thinking on the job through conference discussions. It has been assumed, in general, that the value of these discussions lies in the fact that they bring out and organize what the men already know rather than to instruct them as to how their jobs could be done better. The object of the work has been to help the men to set up before themselves what they are doing and why they are doing it that way, leading to a discussion of ways and means for possible improved methods for dealing with situations to better advantage.

From this statement just made it is evident that it has not been a piece of work intended for instruction, but that the object has been simply to take a group of fellows who have been on the job a greater or less length of time, and who have learned the job by the usual method of being pushed off the dock into it, and who are doing a lot of things pretty well, but do not know exactly why. The purpose has been to promote intelligent thinking, and therefore more intelligent doing, of the everyday work of the foreman on his job.

I have had nine groups out of the four plants. A separate program has been worked out for every group. I do not say that these programs have been invariably followed, but the records of the twenty meetings with each group show as a matter of fact that each group developed a program of its own as the work went along. That program did not correspond very closely with the original program which was set up, and, of course, nobody who knew anything about the business supposed it would, and I may state that no attempt was made to hold to the program originally set up.

There have been altogether about 150 men in these meetings. I think that practically covers, in a brief way, a statement of what we have been trying to do in Niagara Falls, what our purpose has been, and the way in which we have been getting at it.

MR. FRANK CUSHMAN: I went to the State of Oklahoma for the purpose of putting on a few weeks' conference, supposedly with a group of men who would subsequently function as conference leaders. It was supposed that I should have from one to three men from each of about five or six large oil companies, who had become interested in the proposition. When I arrived there it developed that that plan had fallen through, somehow or other. I succeeded in interesting the Vice-President of the Cosden Refining Company, and he made this remark—"If none of these other people want to go in on this, how many of our men can you take for the period of two weeks' full time?" I told him that twenty would be about the limit. The result was, within three hours I had eighteen head foremen from a large oil refinery, employing at that time over two thousand men, I think, and these men were to be put in a room with me for six or seven hours a day, for two full weeks.

It is needless for me to say that I had some job in handling these men. The men did not know what it was all about. The Vice-President and personnel superintendent, were sharp, progressive men, and they wanted to see this strange animal that was being advertised, and they wanted to be shown. Missouri is close to Oklahoma, and they assumed that the proper thing to do was to have a person show them what he could do, rather than to tell them about it exclusively. The most favored attitude on the part of any of these men was a mild degree of curiosity, and from that it ranged to open disapproval of the whole proposition. I am willing to confess that I was considerably worried for the first day or two until I should have succeeded in convincing these men that I was just an ordinary type of man, that I was not a wild-eyed theorist coming down there to tell them a whole lot about their jobs, and that sort of thing.

In short, I got through a two weeks' intensive program with these men, and, instead of these fellows being opposed to the proposition, they requested evening meetings, and they even wanted to meet on Sunday. Every man of the eighteen was absolutely sold 100 per cent on the proposition. I think I was able

to do that largely because these men were high grade fellows, they were not the ordinary type of foremen, they were sort of head foremen—each of these men had under him anywhere from two to ten sub-foremen.

I tackled the proposition from the standpoint of carrying on an analysis of the foreman's jobs from the standpoint of responsibility, classifying this responsibility under the three main heads—managerial, supervisory and instructional responsibility. So far as it could possibly be done, the work was carried out by what has been called the Case method, that is, under certain topics, whatever topic happened to be up for discussion, a man would bring in an illustration, a case, from his own experience, for the purpose of analyzing and study and argument and all the rest of the activity that comes with a real live foreman's meeting.

I found that these foremen had, to a considerable degree, responsibility for instruction, and because of that, I did not confine the work exclusively to the problem of supervision and management. I ran over quite a bit into the instructional field, because of the fact that the cases the men brought in indicated, without any doubt whatever, that these men did have a considerable responsibility for instructing others.

Two months after I had finished that work, I received a very interesting letter from the personnel superintendent stating what he said he could see as the result of that work. He thought he could see a change in the attitude of these men toward the company; he said he thought that he could see that these men realized more than ever before that the success of the company depended upon the success of each and every one of these individual men, and moreover, that the success of the men depended upon the success of the company; that is, the men were possibly given a little different view of their responsibilities relative to cooperation with the company. All that sort of thing may be referred to as team-work. He said he thought he could see the results upon the men themselves, as reflected in their attitude towards the further carrying on of this work, and carrying on other activities which would tend to improve them and fit them for the job ahead. I suppose, then, if this were true that some ambition had been stirred up in these men, which would possibly cause them to want to grow a little bit on the job; but he said, after all, the most valuable thing he thought he could see as the result of that work

was the attitude, the different attitude, that every one of the men showed toward the men in his particular gang, that they were handling these men more intelligently, and he could see that that was going to be of very great value.

CHAIRMAN TUKEY: Even though the Chairman of this Committee is engaged in foremanship training, which, to some extent is always to assist others to overcome some of their mistakes, it is quite often true that the Chairman of the Committee makes mistakes himself. A mistake was made, an error, an oversight, in the work of this Committee. It was partly my own fault, partly a clerical error. I had received a letter from Mr. Hendershott, advising of the addition of Messrs. Pratt and Carver. Mr. Carver is connected with Swift & Company. In some way that correspondence became mislaid and I did not have the opportunity to advise Mr. Carver of and secure his attendance upon our first Committee meeting. I know that a very extensive piece of work has been done at the plant of Swift & Company, in Chicago and I want to ask Mr. Carver if he will not tell us about his work.

MR. ARTHUR H. CARVER (Swift & Company): Swift & Company has been conducting work in foremen's training in twenty-one plants from Boston to Denver and from Winnipeg to Fort Worth, Texas. Altogether we have more than five thousand foremen who have been included. We started our work by using one of the standard courses prepared by an outside agency, namely the Modern Production Methods Course of the Business Training Corporation of New York. We did this because we believe that all such work must begin by the construction of a broad foundation if it is to have any permanent value. We therefore undertook first to give to our foremen an understanding of the fundamental principles that apply to industrial management and to show him the true nature of his relation to the company and to the working men.

At the conclusion of the foremen's course a club was formed at each plant for the continuation of the work. This was done voluntarily by the foremen themselves. They were in exactly the frame of mind that we wanted them to be. There was an unsatisfied hunger there. What they had been studying had not said very much about packing houses. They wanted to see how these general principles could be worked out in their own jobs.

This is the function of our foremen's club. The work has to be carefully directed, otherwise it will have no unity or logical order, but with proper care and sufficient attention by duly qualified persons these difficulties disappear. The result is that having first gotten our foremen interested and on their toes we now have them intelligently seeking to apply sound general principles to their own work.

Recently Swift & Company has found it desirable to reduce their force somewhat, weeding out the poor material which has accumulated during the war. We had an excellent opportunity here to see the result of the habit which our foremen had acquired of getting together and discussing the problems of industry. They were asked to say where they would cut down their personnel if the business which they were conducting was their own. The real decision as to who should go and who should stay and as to how many should be dropped and how rapidly the change should be made was virtually made by these same foremen who submitted their recommendations to the management.

Within the last two weeks we have had another opportunity to judge the value of these foremen clubs. We have just put into operation a plan of Employees Representation in fourteen of our largest plants. We used our foremen's training classes to pave the way for it. We believed that no such plan would be successful unless the foremen themselves were thoroughly sold on it. His first reaction is likely to be, "Here is something that is going to affect my dignity and authority." We spent a good deal of time educating our foremen up to the principles upon which Employees Representation is founded. When the time came to establish our plan and put it into actual operation we were unusually successful in getting it across to the working men. We believe that this was wholly due to the preliminary efforts which we had made to convince the foremen first.

For a large organization, at least—we would not attempt to speak for a small one—we believe that foremen's training should begin with the study of the broadest general principles of management, that this study should be based upon some standardized course, and that this course should be followed by the formal training designed to apply the general principles to the specific job.

J. O. STEENDAHL (S. F. Bowser & Company, Inc.): My ex-

perience in foremen training began two and one-half years ago while conducting classes in the S. F. Bowser & Company, Inc., of Fort Wayne. The purpose of these classes was to train the foremen and other supervisors to teach and handle men. The classes met once a week, two hour sessions, during a period of three months.

The company lost eighty five per cent of its force by the strike route about the time this course was completed. The process of building up an almost new force began at once. The training received aided the foremen materially in breaking in these hundreds of new workers.

Since that event, we have conducted additional classes for foremen as the need for training developed.

Our experience in grouping foremen for class work has led us to adopt the policy of holding general meetings or conferences when putting over company plans and policies. Small classes of five, six, eight or ten men were organized for intensive training to meet department needs. The classes met daily for an hour or an hour and a half, and continued for periods of three to twelve weeks. As Mr. Allen states in his experience, the course must necessarily vary in content, etc., if you are to meet the actual needs of your foremen.

The subject matter of these courses covered three general phases. Company policies were first explained and discussed. The second phase dealt with problems of management of men, materials and machinery. In this second phase of instruction, we kept in mind the department needs and practice, and all instruction and discussion was based on the experience and conditions under which the foreman worked.

For instance, the group of twelve foremen from the Pump Assembly Department in the course of instruction actually re-assembled a certain type of pump, in order to gain logical instructional material for men in their various groups. The third phase consisted largely of what I call related technical information. This information dealt largely with engineering facts and practice such as cutting angles, speeds, tool practice and methods developed in the machine tool industry. In some cases, the instructor was a selected engineer in the plant, in other cases, experts were called in from the machine tool industry to demonstrate and instruct on these technical subjects.

We have also a foremen's club which meets once a month. This club affords another means of putting over certain instructional subjects. I remember distinctly one experiment in which the Chief Inspector took charge of a meeting and with the aid of two of his foremen arranged a very clear and concise program on inspection methods and the need of cooperation with the foremen. Good results were secured very rapidly.

The results of our foremen training were very noticeable. I could point to some striking examples, where the foremen have been able to reduce their department costs and overhead by eliminating unnecessary help, changing methods and eliminating waste in men and machine work hours.

During the two and a half years of close association with the foreman, I have become very sympathetic with him in his conditions. The foreman has been stripped of many of his old time duties and responsibilities, through the organization of engineering, personnel, purchasing, planning and such departments. He had lost control of many of these phases in manufacture, yet was forced to work and get out production without this old time control. Many times, the foremen are blamed for low production, high costs, when the real cause was inefficiency chargeable to the lack of functioning of these engineering departments. I am of opinion that training of the type that has been put over to the foremen of the country, could be switched to engineering departments with good results.

CHAIRMAN TUKEY: The question has come up as to the relative efficiency of a standard course as against the course which has been developed to meet the special conditions existing in a given organization. We have brought out in the report the subject of standard courses. The standard course I have reference to may include courses prepared internally in one large organization, but given in a number of plants of that organization. Against this we have a foremanship course developed for an individual plant organization. There are those here who are prepared to speak either for or against either side of that question.

MR. HUGO DIEMER (La Salle Extension University): I had some experience along those lines covering about two years at the Winchester Repeating Arms Company. When I went there a little over two years ago, I found that the company had utilized

a standard course of training for certain of their foremen groups, and they were anxious to have us teach them "Winchester" foremanship rather than a standard course. We began by having various department heads give certain lectures. Perhaps some of you are familiar with the Packard bound volume of lectures given to their groups of foremen. We used a similar plan. We found this disadvantage in that procedure—the method of delivery, the method of organizing their work, the method of presentation varied. We had a stenographer present in each of these talks and the plan for the second year was for us to develop the material we had gotten from these department heads, and others, and train the men along more specific pedagogic instructional lines. Here, again, however, is the difficulty I think you will find in all group training, where you do not ask for any preparation outside—that is, you do not get as good results as you do by some method which will compel a foreman to think and work.

Last Fall I began writing a few books at Mr. Bloomfield's request for the La Salle Extension University, which was preparing a training course based on experience and opinions of thousands of foremen about their work, and also on the part of people who had dealt with foremen. La Salle Extension University has put this training course on the market so far only by the mail order route, to try it out. I became associated with the La Salle people after that time, and we have had wonderful results in the way of the sales of the course through this mail order route, the course being ordered particularly by what are known as mail order students. I do not want to say that the mail order students are typical of group students. I do not think they are, but they represent the more ambitious, hardworking type. We develop for each section of the course a type of problem, setting up a hypothetical instance to which the student must apply the principles of each lesson. Our course is so framed that it brings out specific information from each student about his own peculiar position, a study of his own troubles, and his own work, and the adaptation of the principles to his specific industrial job. It is along the lines of what is called the La Salle problem method, and from the results I have seen in connection with mail order students in their progress in this work, I am satisfied that the individual work by the individual foreman, done away from the group, is going to bring very effective results, much better than

can be gotten by any plan of lectures by company department heads such as I used at the Winchester Company.

CHAIRMAN TUKEY: The General Electric Company, I believe, is conducting foreman activities in its various plants at Schenectady, Lynn and Erie. Perhaps the same course is conducted in each plant, or do the courses vary? Thus we may have an illustration of the standard course, given in three plants or an individual course developed for each plant. Can you give us an explanation, Mr. Lemp?

MR. HERMANN LEMP (General Electric Company): The methods which we follow in the plants at Schenectady, Lynn and Erie are based all on the same foundation. The method of instruction are those laid down by Mr. Allen in his book "The Man and the Job." The instructors whom we employ in this work are also disciples instructed during the war by Mr. Allen, he having made a success of it, we naturally went to the source to get men who knew their jobs, and Mr. Dee at the Lynn works, I think, was the first one so retained. He uses the groundwork that Mr. Allen has laid down, and modifies it just as Mr. Allen modifies his according to the group of men which is assigned to him.

At the Schenectady works, Mr. Ellis follows the same general plan. I think the distinction in methods between the Schenectady and Lynn works is that at the Lynn works, the foreman training began with the higher executives and went downward, and in Schenectady it began with those at the bottom and went upwards. When Erie took up the matter about a year ago, we went into conference with both the Schenectady and Lynn plants to find out which method proved to be the better and as I understood it then, the system of taking the course from the top downward was considered to be the better one.

To explain just how satisfactory the results were, I shall say that it depends a great deal upon the manner in which the factory management looks upon these activities—for instance, you have heard Mr. Richard Rice address this meeting last Tuesday night—he is a man in full sympathy with all educational methods, and gives them full support. This general business depression which has reached everybody has made it a little bit harder. The consideration of economy has forced us to slow down in the expenditures connected with this work.

So far as the work of Mr. Scull at the Erie works is concerned, it has been productive of much good, and I also know that the president of the company, Mr. E. W. Rice, Jr., is very much in favor of educational methods of this kind. It was practically at his suggestion that this work was taken up at Erie. The most satisfactory way for judging results is by reaching down into the shop itself and finding out how the men view the work done with the foremen. I have heard such expressions come back to me as—"Well, what has happened to foreman so-and-so? He seems to be almost human now." In conclusion I desire to relate a short anecdote regarding Mr. Scull. We have a debating club in Erie known as the "Men's Liberal Club" and we invited Mr. Scull to tell the men interested in educational methods a little about his industrial training of foremen, and just like Thompson, the man who created Luna Park at Coney Island, who first made the public work for their own amusement, instead of having the amusement handed to them on a platter, Mr. Scull started out and made the audience work instead of listening to the speaker. He put out, as a kind of an example, a lecture on foremen training, but before he started out to illustrate our method of bringing about certain results by conference under guidance, he had prepared a typewritten sheet of what we were going to develop, and he started out with his class, and the class worked very enthusiastically and developed various responsibilities, managerial and otherwise and finally when everything they thought a foreman should do was written down on the blackboard, the printed slips which Mr. Scull had prepared in advance were handed around and to the great surprise of the men who thought they had actually done it all, it was found that what they had suggested and what was shown on the printed sheets, were alike, which proved that the method was alright.

CHAIRMAN TUKEY: I gathered, Mr. Lemp, that a general outline may be followed, but that it must be adopted to each individual plant, that is, Mr. Ellis has developed something in Schenectady, Mr. Dee has developed something in Lynn, and Mr. Scull has developed something in Erie, and that while they fall under the same general plan, the detail is developed to suit each organization?

MR. LEMP: The ground work should be the same, the detail applied to the individual organization.

MR. A. J. BEATTY (American Rolling Mill Company): We are entirely too modest talking about these standard courses. We have had testimony from Mr. Carver of Swift & Company of the very considerable success which he thinks they have obtained with the use of the course devised by the Business Training Corporation. Our advanced report here mentions at least a half dozen other standard courses. I should like to have some discussion from men in different organizations, who have used some of these different standard courses as to what success they have had with them.

At the American Rolling Mill Company we have considered pretty nearly every one of the standard courses on the market and we have tried hard to get information of the value of these different courses. I should like to know, Mr. Chairman, if anybody here has had experience with any of these standard courses, and I should be glad to know what the success of that experience has been.

CHAIRMAN TUKEY: I am quite sure that the Business Training Corporation will be glad to receive any comment of this kind. I do not want to pose as being radically opposed to what I call commercially operated courses, they have their function. We should get the full benefit of a discussion of this subject.

MR. RALPH A. FOSS (Business Training Corporation): It seems that a movement which has reached nearly 30,000 foremen in the last three years in four hundred plants in practically every kind of industry, should have attention in a report of this kind, and a gathering of this sort. We have, I suppose, what you would term a standardized course. This course may be called standardized because we are dealing in principles universally applicable and common to all plants and all industries. We do not attempt in this course, to take up the specific problem peculiar to each plant.

Mr. Carver spoke of one very important thing that he tried out the course with some 3,000 people, and after waiting for something like six months, extended it to 2,000 more people. I think that is the best kind of testimony that we can get.

The U. S. Rubber Company is really responsible for this course—they suggested in 1918 that we prepare the course, which we did, and they put a thousand foremen in the footwear division through the course, and then waited one year to measure

the result, and put 800 men the following year in the tire division through the course. We have had a great many of what we call repeat courses or repeat orders.

I shall tell you what we are trying to do with this standardized course. It is not an experiment with us, because similar training had been put into effect in over 300 concerns before we brought out this course. I believe we are the only concern confining ourselves exclusively to group training. We had worked in several hundred corporations, giving our courses in Business English and Foreign Trade. We had learned from that experience, extending over several years, some fundamental things. In the first place we have learned that you cannot have a very extensive course and hold the interest of your students. A course of about three or four months' duration is best. Second you should have material well adapted to the particular type of man you are instructing.

We find also that he must apply what he has learned through the problem work. We have also found that the group idea is the best for getting results.

The fundamentals of training of this kind I think have the advantages of bringing the practices of the best concerns in various industries to any particular industry, to bring that advantage to any industry which desires to develop foremanship training in its own particular plant, along fundamental lines, thus laying the ground work for the later study of specific problems peculiar to that industry. As far as the experience of these concerns in a great many lines of industry goes, we have prepared a rather comprehensive report entitled "Twenty Thousand Better Foremen," and we should be glad, if anybody cares to write to me, to send him a copy of that report, which gives testimony regarding the experiences of these concerns with the course.

CHAIRMAN TUKEY: Surely there are those present who have had direct experience that would put them in a position to give us an opinion as to the relative value of a standard course, and a course developed to suit the individual organization?

Mr. Allen stated that he conceived that it was the purpose of his work to bring out what the foreman already knows. Others have thought that it was the purpose of foremen courses to add to the foremen's knowledge.

MR. A. J. BEATTY (American Rolling Mill Co.): I should

like to press my question a little further if I may. The group in this room is supposed to represent the leading industries of the United States, the most progressive ones, and it seems to me there must be some companies represented here who have had actual experience with various foremen courses. It seems that any of the members of this organization, if any, who have had such experiences, should tell us about them—if the courses are good, tell us about them, or if they have been stung with these courses let us know that.

MR. W. G. CATLIN (Shepard Electric Crane & Hoist Co.): In answer to Mr. Beatty's question, I can say that practically all of the foremen in our factory have finished the course of the Business Training Corporation. This course, as the speaker representing the Business Training Corporation has just told us, is a short course, of approximately twelve weeks, consisting of textbook work and lectures. Do any of us think that a foreman is trained after he has had twelve weeks' work?

For five years we have been giving work in our technical night school which has aimed to increase the technical knowledge of foremen and workmen, and to supplement their ability to do constructive work in our factory. Some of the foremen could not be induced to enroll in these courses. The Business Training course came along and attracted many of the men who had not been interested in the technical courses. This course was just completed last month, and therefore, it is not possible to give very definite results at this time, but I have noticed a very great difference in the attitude of these men toward the whole question of training. Where previously I think it would have been almost impossible to enroll them in any courses such as Mathematics, Drawing, Electricity, Cost Accounting, or in any other study which would have been a valuable supplement to their ordinary pick-up education, now we have been able to interest them in these courses. If the Business Training Corporation course has done nothing for our men other than that, it has performed a valuable service to us.

In addition, I feel that this course has broadened their view toward their work as foremen. Those who previously had little or no idea of helping out the other foremen have been given an attitude of helpfulness, an attitude which will make them ready to do better work as members of the team.

In these two respects, at least, I feel that this so-called standard course has accomplished much for us. We should not expect too much from a twelve weeks' course, or a course restricted to any given short period of time, but if it can start the foreman along educational lines, and, as a result, we can keep on training him, perhaps for five or ten years in various ways, then I think that such a short standardized course is justified.

MR. HUGO DIEMER (La Salle Extension University): Chairman Tukey asked a question as to whether this knowledge was to be knowledge that the foremen already possess, or whether it was to be knowledge that somebody else was to give. I think Dr. Frederick Taylor answered that question, not only in regard to foremanship but with regard to anything connected with works management. He said that the first thing to do in any industry is to gather together all the knowledge of that industry, no matter who possesses it, the scrubwoman or the office boy, or the sales manager, or the President or the Treasurer—get together all the knowledge and data of the industry. The second thing is to organize it—it is not what any one foreman knows or all the foremen know. If they are basic principles we can gather these things together and separate them, and organize the material in the best possible way. That is what Meyer Bloomfield did in the 5,000 questionnaires he sent out to the foremen about their job. The foremen do know this—that no one foreman knows all of it, nor does any one foreman know what he knows.

CHAIRMAN TUKEY: I might add that my purpose in bringing out my question is to emphasize that in one case we seek to develop improvement in the use of existing knowledge and latent abilities, while in the other case we seek to impart additional knowledge or information.

There are two distinct viewpoints, one in which it is desired to develop and classify existing duties and responsibilities—and the other that we shall give him a lot of information gathered here, there and elsewhere, that may add to his general equipment. It becomes a development method against a pure lecture method.

MR. J. E. BANKS (American Bridge Company): I have been considering this problem for the last six months, and have been applying something of a general course in connection with the company's work, and including things which ordinarily are

not included in a general course, so well brought out here by Mr. Allen.

MR. E. R. COLE (Acheson Graphite Co.): It seems to me from the discussion here so far this afternoon, that this is an experimental proposition, and that as you fellows have only been in it a short while, and the foremen have been in it a long time, I am wondering if we arrived on the basis where we are just getting together? One course is doing as much as the other, and we are discovering both knows something about it. I believe one is just as near right as the other. We are discussing this thing in a supposedly intelligent way, but can we go out and say we have a cure-all or something else with which to put it over.

I am wondering whether we are not getting on the basis Mr. Rice suggested last Tuesday night, of getting down to a point where we are understanding each other? We have discovered that the foreman knows a lot about it, and perhaps the foreman wondered what we knew about this thing when we began asking questions. We are getting a better understanding, and maybe ten years from now we can get together some kind of a course that can be applied all the way around.

CHAIRMAN TUKEY: I do not feel that I am an authority upon this subject. This work is too young to have developed authorities. If we express radical views occasionally, we start a little thinking upon the subject. I hope that as a result of this meeting today, we have brought ourselves to the making of some definitions. That we are going to determine our aims and then plan our courses, and select suitable methods for putting those courses into practice.

(The meeting then adjourned.)

SKILLED AND SEMI-SKILLED LABOR

THURSDAY AFTERNOON

DR. A. J. BEATTY, *Presiding*

DR. A. J. BEATTY: The question of Skilled and Semi-Skilled Labor seems to necessitate delimiting the scope of this committee and the scope of the Apprenticeship Committee. So our committee decided not to touch any of the jobs in which an apprenticeship is ordinarily in vogue, limiting ourselves to a consideration of the jobs that may be learned in a relatively short period of time.

We tried our best to get hold of a large number of outlines of jobs which may have been made for the purpose of teaching such jobs, but unfortunately we were not very successful. I do not know just why that is. Very few companies have gone to the trouble, so far as the committee was able to find out, to actually make a teaching analysis of jobs.

We, in our committee meeting at Pittsburgh last October, discussed the question as to just what ought to be contained in a teaching analysis of a job. Now, there seemed to be agreement in the committee that a teaching analysis ought to include an analysis of it so that the foreman and the man on the job would be able to tell precisely what he does, and how he does it. I do not know whether any of the men here have undertaken to analyze any jobs in this manner or for this purpose.

I did get hold of a few in our class on foremanship at our own plant last Fall. The first part of the course was given to that phase of a foreman's job, "the foreman as teacher." Here we undertook to work out in considerable detail quite a number of jobs by the foremen who were actually in charge of those jobs. We agree in making out those outlines that they ought to include a description of the materials necessary to perform the job, and the tools for the job. Then, collateral with these an outline of the drawing, and the mathematics necessary for the job. Of course, there are a great many such analyses which would not contain all of these factors, but most of the jobs would contain practically all of them.

Another thing we ought to consider in making a job analysis for teaching purposes is a consideration of the safety factors. We have an example at hand: One member in our committee

meeting reported a particular job in his plant in which there had been for a long time a turnover of something like five hundred per cent; no man would stick on the job for any great length of time. Although there was a bonus attached to the job nobody was able to make the day rate on it, to say nothing about the bonus. It was a relatively simple job, but rather a dangerous one, and no one had ever made a study of the danger factors nor how to teach the men to do the job safely. They undertook to do it and discovered relatively easily what the danger factors were and how to avoid them, with the result that inside of two months the men were making bonuses on the job; and the turnover at the end of the year had been reduced to practically nothing. This is a pretty good argument, it seems to me, for assuming that the safety factors ought to be considered in any teaching analysis of a job.

Some of us heard Mr. Wakefield's statement yesterday. He made a rather discouraging report on the training applicable to technical jobs in the Carnegie Steel Company. In talking with him afterwards he felt that it is largely a waste of time to undertake to give men in technical jobs a general training course. I do not know but that there is some ground for his point of view. In developing the subject further with Mr. Wakefield, we agreed that the technical training of men on jobs for the improvement of those men ought to be made up largely of very short unit courses of just a few weeks, or rather intensive courses, and related just as closely as possible to the jobs on which the men are.

Here is a case in point: You probably know it is quite possible for a man to operate a gas producer successfully even though he knows very little about the technical side of the process.

Now, what we did was to organize a six weeks' course for the benefit of those fellows, making it just as elementary as we possibly could, for about half the class were colored men and most of them could not read at all. Therefore any technical course for those fellows must be pretty elementary. Now, that is a type of work which it seems to me must make up a large part of our courses for the purpose of improving skilled men and semi-skilled men on their jobs. I do not know as there is any better way of doing it. If any of you think of any better way or have any suggestions in that direction, I would be very glad to have you bring them out.

I should summarize the points I have undertaken to make by an emphasis upon actually writing out with considerable care a teaching analysis of the jobs which we propose to give to our skilled men, with emphasis in the analysis upon the safety factors. And the second point I should make is that our courses ought to be short courses, very simple, and running from four to six or eight weeks. I believe as an encouragement to the men we ought to give each student finishing a course a certificate showing that he has actually covered the ground of the course.

Now, I should like you men here to tell us what you have in the way of courses of various kinds for skilled men, either courses for the purpose of training, or upgrading semi-skilled men into skilled, or for the purpose of improving skilled men on the jobs on which they are already.

COMMITTEE ON SKILLED AND SEMI-SKILLED LABOR

DR. A. J. BEATTY, *Chairman*

THE AMERICAN ROLLING MILL COM-
PANY
Middletown, Ohio

MR. H. F. BUCHER

PHILADELPHIA COMPANY
Pittsburgh, Pennsylvania

MR. F. J. RILEY

THE LIQUID CARBONIC COMPANY
Chicago, Illinois

MR. W. E. SMITH

KOPS BROTHERS
New York, New York

MR. H. H. TUKEY

SUBMARINE BOAT CORPORATION
Newark, New Jersey

MR. H. T. WAYNE

SCOVILLE MANUFACTURING COMPANY
Waterbury, Connecticut

MR. A. E. WHITE

HABIRSHAW ELECTRIC CABLE COMPANY
Yonkers, New York

MR. JOHN WHITING

PHILADELPHIA RAPID TRANSIT COMPANY
Philadelphia, Pennsylvania

REPORT OF COMMITTEE

There is no longer a need for argument in favor of training of skilled and semi-skilled labor. As a nation we are committed to a program for vocational and trade training.

But the fact that the need for such training is generally recognized does not at all warrant the assumption that any considerable proportion of our industries have solved the problem. It is true that many concerns are undertaking to give their new men some introductory training, and older men, some additional training, but the fact still remains that few industrial or commercial concerns have attacked this problem in a scientific manner. It is still true in most establishments that the only teaching or training which is given is given by foremen, and it is equally true that the average foreman considers that this teaching and training is the least important part of his job.

An Instructor Foreman

It does not seem probable in the near future that the average foreman will be relieved of this training job, though in many of our most progressive concerns he has already been relieved of this responsibility and the placing of this task upon one whose whole duty is that of teaching is one of the most encouraging movements in modern industry.

This new man in charge of the training function is properly called an instructor-foreman. It is his task to teach new men their job, and to teach old men better ways of doing their work. But breaking in new men, or improving old men, is not his whole job. Another important part of his job is to *teach foremen how to teach*. It is not possible or at least not desirable to relieve the foreman entirely of this task, for it is inherent in his job. But he must be helped to analyze his jobs, and to pick out of the many elements of those jobs the chief teaching points, or steps which a learner must master if he is to do that job well.

As stated above, few foremen have given any thought to this phase of their jobs, and they are quite unable to do it well without the trained help of an instructor-foreman.

The difficulty which this committee has experienced in securing for this report such job analyses, and teaching analyses, is but further proof that but few concerns have the help or the means for making them. The need of industry for an instructor-foreman is surely one of our greatest needs.

Job Analyses

It should be borne in mind that there are three distinct types of job analysis:

1. Analysis of a job showing the characteristics or qualifications required of the man who is to do that job.
2. Analysis of a job for production purposes, showing the proper sequence in the steps of the job to facilitate most efficient production.
3. Analysis of a job for teaching purposes, showing the proper sequence in the steps of the job to a new man on the job.

The first analysis is a task for the employment man, the second belongs to the production engineer, while the third is, for the present, the task of our Committee. This teaching analysis may, in some cases, be similar to the production engineer's analysis. In fact teaching the quickest and best way of doing any job is the greatest contribution which the instructor can make, both to the new man and to the production man.

In no case will the teaching analysis of a job resemble the employment man's analysis.

The proper teaching of any job involves five fundamental principal divisions:

1. The actual performance by the learner of the operations of the job.
2. A knowledge of the materials for the job.
3. A knowledge of the tools for the job.
4. A knowledge of the mathematics for the job.
5. A knowledge of the drawings for the job.

These are not always distinct steps, and not all of them are always present, but no teaching outline of a job can be considered complete unless it does contain them if they are involved in the job.

Tools, Equipment and Materials

In many cases teaching analyses should include a description of the tools and equipment necessary on the job, and instructions as to their use. It will usually be necessary, also, to discuss and describe materials used on the job.

Safety Factors

At one of our committee meetings one member told of a certain job in which the turnover had been as high as 500% and in which it seemed impossible for piece-workers to make even the minimum wage on the job. A careful study of the job was made, and it was found that the men had never been taught the safe way of doing it, and their speed and production were constantly low, for fear of losing a finger in the operation.

The safety engineer was called in, and a careful study of the job was made. He discovered the danger factors, and the safe way of doing the job. As soon as the men were taught the safe way of doing the job, production was almost immediately increased, and the turnover reduced from nearly 500% to zero.

This incident serves to emphasize the point that every job analysis, for whatever purpose, should involve also an analysis of its danger factors, and instructions as to the safe way of doing the job.

Drawings

Many jobs cannot be easily or properly put over to a new man without the aid of drawings. For such jobs as these, drawings ought always to make up a part of the teaching analysis. These drawings frequently need be only rough sketches; in other cases they must be detailed and accurate, but whenever possible they should be a part of the teaching outlines.

Job Outlines

The wide variety of industries and businesses associated with the National Association of Corporation Training makes it difficult to select any small number of trades or jobs which will be of equal interest to any considerable number of members.

As to trades it seems best to assume if any job is extensive

enough to be called a trade, that it will come properly within the scope of the Committee on Apprenticeships. Therefore this report is limited to specific jobs rather than trades.

Instruction Outlines, or Teaching Analyses

Mr. W. E. Smith, of the Training Department of Kops Brothers, New York, has submitted detailed instruction sheets for the operation of stripping in the manufacture of "Nemo Corsets."

These outlines are a good example of the great detail which is necessary for instruction sheets and they serve as a splendid model for detailed instruction sheets for other jobs.

OPERATION: Stripping

Detailed Steps of Operation.

1. Remove work from bag.
 - (a) Lay bag flat on table, open end toward operator.
 - (b) Pull work out of bag with right hand, holding bag with left.
 - (c) Place work on table.
 - (d) Fold bag and lay on table to left.
 - (e) Clip string that ties bundle.
2. Compare running number on tag with that on corset.
3. Sort, count and arrange work in best working order.
 - (a) Take bundle from table and place in lap so that corsets are slightly inclined, one end resting in lap and the other against the machine table.
 - (b) Sort out the halves by numbers and lay them two pairs at a time across work box, the long direction of the corsets extending across the short direction of the box. The pairs are piled upon each other, the bottom edge of the corset being toward the operator.
 - (c) As the pairs are laid upon the work box they are counted.
4. Clip a small piece of reinforcement (2½") and insert in machine with right hand, running it about half way through.
5. Pick up first half of corset from pile as small piece above begins to run through machine.

- (a) Take hold of corset at right side with left hand.
- (b) Have top of corset toward machine.
- 6. Insert top end of corset under foot at seam where side steel is to be placed.
 - (a) Use two hands gripping corset at top edge.
 - (b) Slightly stretch out corset as it is raised a trifle while being inserted.
- 7. Continue stitch, using both hands as above for about one inch to one and one-half inch as the corset is being "steered" in right direction.
- 8. Place left hand on seam of corset as it is being guided through, using the fingers in a spreading movement to have the material lie flat.
- 9. Release right hand and reach for reinforcement strip.
- 10. Pull reinforcement strip to correct length and clip, using knee lift.
 - (a) Grip strip between thumb and finger of right hand and pull it toward left along front of machine to stop.
 - (b) Operate knee lift with right leg resting firmly on the treadle, the machine still running.
- 11. Insert strip in machine by end as pulled out.
 - (a) Corset raised slightly at bottom end by right hand containing strip.
 - (b) Corset guided by left hand on seam as stitching continues.
- 12. Continue stitching toward bottom of corset.
 - (a) Use right hand to guide corset as above.
 - (b) Have left hand free.
- 13. Pick up second half of corset from pile.
 - (a) This done by left hand as stitching reaches about three inches from bottom.
 - (b) Grip corset at right side having top end toward machine.
- 14. Insert second half in machine.
 - (a) Corset gripped by both hands as strip on first half is about to run through, the right hand being temporarily released from guiding the corset at this point.
 - (b) Second half inserted after about 2 inches of strip

sticks out at bottom of half just run through, the machine continuing to run.

(c) Hold corset up slightly with both hands until the stitching takes hold, then release right hand, guiding the corset with left as before.

15. Clip strip joining two halves.

(a) Clipping takes place after strip has been stitched 2 inches, the machine still running.

(b) Shears clipping strip operated by right hand reaching under arm of machine.

16. Place clipped half upon work table to left and in convenient position.

(a) This is done by left hand, the right hand being temporarily used in guiding the corset.

(b) The corset should be laid in such a position that it can be easily picked up for next operation.

17. Continue stitching process as referred to in 8 above.

Thermit Welding

To outline a shop demonstration lesson with proper sequence of steps, and with each step made clear, is a difficult task and shows a high degree of teaching ability.

The following lesson outline on making a thermit weld was submitted by Mr. J. B. Cunningham, of The American Rolling Mill Company. This outline is in actual use for a demonstration lesson.

To thermit weld together two pieces of 2" shaft. In this instance we have prepared some of the preliminary work to gain time because the job as it is will take all of the time that we have at our disposal.

Lining Up. First place the pieces on the "V" blocks and in line with each other, then secure with clamps, and after drawing down tight, the pieces should be checked again to be sure they are in line.

Waxing. Heat the wax until it is all melted, then let it cool until it becomes plastic, after which it can be shaped around the weld making a pattern the same shape as the finished weld is to be; that is, the space between the ends of the two pieces

must be filled with wax, and also built out (in this case) $\frac{3}{4}$ " more all around, than the size of the shaft, making a collar 3" in diameter in the middle of the weld, and rounded down to a point. 1" from the ends of the shaft making a collar 3" long.

Mold Box. Next the mold should be placed and blocked up so that no weight will rest on the parts to be welded, and must be placed so that there will be a wall of sand at least 4" thick between the wax and the mold box at all points.

Preparation of Sand. The two kinds of sand, namely; the black or backing sand and the yellow or facing sand should be put into separate boxes and mixed with just enough water to make them pack well.

Ramming. This is accomplished by first placing a little black sand in the bottom of the box and ramming it down hard with a rammer. Too much emphasis cannot be placed on the *ram hard*, as the safety of the weld depends largely upon the mold. Continue to add a little sand and ram hard until the wax is reached. At this point a heating gate pattern should be set in the sand, at the lowest point of the wax, to provide an outlet for the wax and a port through which to heat the job. This gate must be surrounded with nearly an inch of facing sand, and a good layer of facing sand should be carried all around the wax pattern, as this face will be the inside of the mold when the wax is melted out. When the top of the wax is reached, the riser pattern should be set at the highest point of the wax, then the sand should be continued for about 3" above the weld, so as to make sure that pipes will be taken care of in the riser and not appear in the weld itself. After the sand has been rammed to the proper height above the weld, it should be rammed about 3" higher at the edges, to provide a pan to hold the slag that will gather on top of the mold after the steel has run out of the crucible.

Venting. The mold should be vented by driving a small rod down at a number of places around the weld to provide an escape for moisture in preheating and allow gas to escape when pouring the steel into the mold.

Remove Gates. This is accomplished by tapping them all around with a hammer to loosen. Then draw out and be sure that any loose sand which may fall into them is removed.

Method of charging and operating

Time required for processes

Removing of charge

Wire tester

Principles and operation of Wheatstone's bridge

Calculation of insulation resistance

Voltage test for blowout

Sector stranding machine operator

Wire gauges and sizes

Lay and twist of sector

Gear ratios

Building up of sector

Dies used and adjustment

Operation

Brazing ends

Length of time for stranding unit length

General precautions to be observed

Stranding machine operator

Wire sizes and gauges

Lay of cable

Gear ratios

Die head sizes

Operation of machine

Gauging of work

Diameters, adjustments

Brazing ends

Length of time for stranding standard units of different machines

General precautions

Compounding machine operator

Weighing and handling of material

Rubber washing and drying

Compounds and use of each, formulas

Care and handling of machine

Mixing

Temperature and its maintenance

Storage of rubber

Calandering machine operator

- Warming of compounded rubber
- Adjustment of machine
- Protective devices
- Cloth backing
- Care of calandered rubber to prevent stretching
- Gauging
- Strip cutting machine operator

Lead press operator

- Temperature and control
- Die sizes and adjustment of dies
- Heating of dies
- Control of process and precautions
- Gauging for wall or thickness
- Sealing

Vulcanizing operator

- Pressures to be used
- Temperature to be used
- Loading and unloading of vulcanizers
- Records of heats and pressure of cure
- Re-reeling and wire repair
- Handling of pans
- Handling of drums
- Handling of sample lengths

Copper Store Keeper

- Wire sizes, lengths, weight, reel capacities, tests, tinning, location in store house, quantities received and transportation to stranding department

Rubber Store Keeper

- Location in store house, samples for test, amounts on hand, amounts used in different compounds, care of raw material and compound rubber

Lagger or Packer

- Operation of paper wrapping machine
- Boxing and crating in convenient packages
- Standard packages of this company
- Stock sizes, lengths and weights
- Care in packing and labeling

Electric Truck Operator

Construction of truck and operation
 Care of truck, recharging batteries
 Lines of routes of traffic
 Weight of reels, loads, etc.
 Location of departments

Electric Crane Operators

Weight of reels, sizes of cable
 Care and operation of crane

**Course for Teaching Hand Trucking, Motor Trucking,
 Auto Mechanics**

Before laying out plans to teach men to do hand trucking, motor trucking, and to become auto mechanics, it is understood that the employment division has made its analysis of these jobs and has secured the proper men to do the work. The ideal plan would be to have an instructor-foreman competent to teach this and other jobs to new men, but the regular foreman is usually the instructor.

Hand Trucking. 1. Most plants already have a hand trucking division. It will be found necessary to make a thorough job analysis of the trucking problem of each plant in order to ascertain the points to be taught and to arrange them in their proper order.

2. Assuming that the job has been analyzed, the foreman or instructor should proceed as follows:

a. The new man is introduced to his job by having a certain truck given him.

b. And is encouraged to consider it as his.

c. And is shown how to oil and care for it so it will run to the best advantage.

d. He is next shown how to load and unload the truck, care being taken to teach him thoroughly the elements of safety.

e. Safety not only for himself but for other employes, as well as for the material being transported.

3. The meaning and use of the work ticket or load ticket is next explained.

4. Trial trips following the routes will teach the new man the names and location of the departments and elevators. During these trips the dangerous places on each route can be pointed out and explained.

5. The instructor should explain the factory rules as he goes along and the necessity for such rules. For example, riding on trucks is forbidden in most plants. The same plans may be followed in teaching men to do motor trucking.

Motor Trucking. In addition to the points ascertained by the job analysis of motor trucking, the new man should be given thorough instructions and practice in the care and operation of the type of tractor which he is to use before going on as a regular operator.

(These instructions are largely covered under Hand Trucking, 2, above.)

1. Particular attention should be paid to the elements of safety on this job and strict obedience to the factory rules should be enforced.

(See 2, Hand Trucking, subdivision e.)

Auto Mechanics. Each plant which creates a training course for auto mechanics will find it necessary to make a thorough analysis of the job to determine the points to be taught and select the proper man to teach the course as laid out.

The following course has proved successful in one plant:

The instructor is a mechanic in the department and is always supervised by the foreman.

1. The new man is introduced to the job by the foreman who gives him certain tools, the use and care of which he explains. The man is made to understand that these tools are loaned him and that he will be held responsible for them and their condition.

2. The next step is to put the man at work as a helper with the instructor.

3. The construction of a gas engine and the reason it runs is explained by the instructor and the importance of thorough, systematic and neat work is emphasized.

4. As soon as the foreman and instructor think proper the pupil is given simple repair jobs to make alone. When the job is finished, the instructor goes over it and explains the mistakes.

5. An important part of this job is the study of the ignition, timing and wiring. The timing is explained and worked out in practice. At this point in the instruction it has proved beneficial to have the instructor make certain changes in the wiring and timing of cars under repair, purposely doing the work wrong, then giving the job to the pupil to find the trouble.

6. Trade journals, instruction books issued by the manufacturers, books on storage batteries and electricity are supplied, and their use and study encouraged.

7. The progress that the pupil makes in the first three months will determine whether he will make an automobile mechanic or not. If it is found he is not suited for the job, his job should be changed.

Making a Western Union Wire Splice

Mr. Charles Deiss, electric foreman at the American Rolling Mill Company, gives the following detailed lesson sheet for teaching a "greener" to make a Western Union splice.

1. Why do you make a splice?
(To carry the current from one wire to the other.)
2. Did you ever see an electric wire get hot?
3. Why does an electric wire get hot?
(Because it is carrying too much current for its size.)
4. What must be considered when making a splice?
(That the joint will carry as much current as the wire.)
5. Then what condition must the wire be in when making a splice?
(It must be clean and free from rust.)
6. Clean wire by scraping it with the blunt side of knife.
7. Clean a space about six inches from the ends.
8. When wires are perfectly clean twist the ends in opposite directions one complete turn.
9. Take connector or pliers and hold the joint in the center with the left hand.
10. Continue turning (with another pair of pliers in the right hand) first one end then the other until you have made four or more turns on both sides, pulling each turn as tight and as close to turns as you can.

11. To finish the turn, nick each wire with cutting edge of pliers and pull in the direction of turn until wire breaks, this will cause the end to lay tight to the line wire.

12. All splices should be soldered. This can be done several ways: with soldering iron, blow torch, electric carbon arc, etc.

13. The rules of the National Board of Fire Underwriters require that all line joints should be mechanically and electrically perfect before being soldered; i.e., solder should not be depended on to make the joint strong mechanically or efficient as an electrical conductor. In other words, soldering should always be done simply as a safeguard against any reduction in the electrical conductivity of the joint.

Conclusion

The Committee believes that it can serve industry best by presenting these lesson outlines as models of method for outlining other jobs, and we hope eventually to secure enough of such outlines to serve as a real manual for the teaching of the hundreds of skilled and semi-skilled jobs.

Reference Books

Federal Board for Vocational Education:

- Bulletin No. 7 for Motor Truck Drivers
- Bulletin No. 8 for Machine Shop Operations, etc.
- Bulletin No. 9 for Electrician, Telephone Repairmen, etc.
- Bulletin No. 10 for Gas-Engine, Motor-Car, Repairmen
- Bulletin No. 11 for Oxy-acetylene Welders
- Bulletin No. 12 for Airplane Mechanics, etc.
- Bulletin No. 36 Parts I and II, Foremen Training
- Bulletin No. 52 Theory and Practice of the Machinist Trade
- Bulletin No. 22 Retail Selling

The Instructor, The Man, and The Job; by Charles R. Allen.
Instruction Manuals for

- Carpenters
- Auto Mechanics
- Sheet Metal Workers
- Machinists

issued by the War Department at Washington, D. C. Some of these may still be available.

University of Wisconsin Extension Series, McGraw-Hill Book Co., New York.

Shop Sketching. Wooley and Merideth.

Sheet Metal Drafting. Longfield.

Automobile Ignition Systems. Consolner and Mitchell.

Steam Boilers. Shealy.

Theory and Operation of D. C. Machinery. Jansky.

Principles of the Telephone, Part I. Jansky and Faber.

The Lesson Manuals of the International Correspondence School, Scranton, Pa.

Many Class A members of the National Association of Corporation Training have developed very excellent lesson sheets for various jobs and trades, and anyone interested can doubtless secure copies of such outlines by writing the director of training of the company in question.

I. B. SHOUP (Westinghouse Electric and Manufacturing Company): How do you differentiate between what you term an analysis for teaching and an analysis for hiring? Would there be any essential difference?

CHAIRMAN: I should think so. It seems that an analysis of a job for the purposes of the employment department is simply an examination of a job to see what kind of man is necessary to do that job. Whereas, a teaching analysis of a job is a different proposition. It is an examination of a job to see what are the teaching points of that job; what are the points difficult to learn in the job, and what is the sequence of the teaching of those points in the job. It is an entirely different thing.

There is another job analysis different from both of these. It is a job analysis from the standpoint of the production engineer. The production man analyzes the job for the purpose of getting out production, while the employment department analyzes the job for the purpose of finding men for the job.

MR. SHOUP: It seems to me the analysis for hiring men will become a basis for the development of an analysis for teaching since the analysis for hiring would depict the kind of man necessary. It might form a basis for the kind of men you want to make out of important material through the teaching process.

MR. E. G. ALLEN (Cass Technical High School): We have had a great deal of experience in taking men off the job and giving them all kinds of tests. We find that, coming back to the Employment Department of the City and getting their job analysis gives us a cue every time for things we should have in the schools. The big question with us has been: What is a machinist, a carpenter, or a plumber, and so on down the line? We have those things pretty well answered in the machinist's trade. We do not try to teach the operation of special machines at all. We start the men on the simplest kind of a planer, a lathe, a milling machine, a drill press, bench work and grinding, and use the machine in the hand gear first so as to get the direct relation between the revolutions of the socket and the needle, screw and gears. On the question of time, two or three weeks, I do not think you can give a time limit because of the thing that we have been calling "Novice Ability" and "Professional Training" entered into it. The only information I can give the committee on accomplishment is, if we had a lathe, for instance, bore and drill and

other things we can make on the lathe; when the man has accomplished that he is a lathe hand regardless of whether he has worked one year or ten years. Until he has learned it he can not be called a lathe hand. The question of time only enters into it in the question of selecting men to go on the job.

I believe what analysis you might have made in the last five or six years in job analysis has been the most valuable influence that has come into the hands of public school people in training a man in the things that he wants to know.

CHAIRMAN: What experience have you had in making analysis of jobs, either for teaching purposes or any other purposes? How many of those analyses are there? Now, it is pretty easy to get analysis of the machinists' job and the more or less skilled trades, but I started out industriously as chairman of this committee to get hold of analyses of jobs and I must confess I did not get very many.

A DELEGATE: There has been a large number worked out by our Occupations and Rates Committee. Personally, I have taken no part in it, but they have quite a voluminous file.

CHAIRMAN: They are particular jobs?

A DELEGATE: Armature winding, tapeing, assembling, and such things as are aside from the regular mechanical work or operations.

MR. ALLEN: In the Stock Yards industries, in work I did during the war together with the Labor Statistics Bureau, we were able to get job analysis down to a point of time that took fifteen minutes to learn. I think that the work of Lieutenant Swan in getting out occupational descriptions for the army, and the work others have done, stand out. In all occupational descriptions, while they are not job analyses, the occupation is taken up in a very general way and the necessary training given them on the job so that the person can be selected through supervision.

The meeting then adjourned.

UNSKILLED LABOR AND AMERICANIZATION

THURSDAY AFTERNOON

MR. J. E. BANKS, *Presiding*

MR. BANKS: We show in the Report a chart indicating the proper placement of unskilled labor as to nationality—American born, foreign born or colored. I think that it is a start on something that will result in affecting immigration and our relations as industries with the foreign-born.

COMMITTEE ON UNSKILLED LABOR AND AMERICANIZATION

MR. J. E. BANKS, *Chairman*
AMERICAN BRIDGE COMPANY
Ambridge, Pa.

DR. GEORGE E. HAYNES
BUREAU OF LABOR STATISTICS
Washington, D. C.

MR. S. H. RENTON
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MR. MILTON D. GEHRIS
JOHN B. STETSON COMPANY
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MISS MARGARET B. REISCH
THE AMERICAN ROLLING MILL COMPANY
Middletown, Ohio

DR. HENRY MOSKOWITZ
SUBMARINE BOAT CORPORATION
Newark, New Jersey

MR. H. G. HILL, JR.
THE ATLANTIC REFINING COMPANY
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MR. A. H. CARVER
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MR. ALFRED H. WYMAN
CARNEGIE STEEL COMPANY
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MR. GEORGE L. WARREN
THE WARNER BROTHERS COMPANY
Bridgeport, Connecticut

MAJOR F. O. WHITLOCK
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Wilmington, Delaware

MR. GEORGE B. FOUT.
YOUNGSTOWN SHEET & TUBE COMPANY
Youngstown, Ohio

INTRODUCTION

The term "unskilled labor" includes unskilled American born men and women, foreign born men and women and negro men and women.

The questionnaire sent out by the committee for this year's report calls for separate training statistics on the above and also for Americanization activities. The results of the questionnaire are included in the tables of the statistics and in the standards for teaching English and for Americanization. Statistics for vestibule shop training are presented for the first time.

As in previous reports related articles are given, contributed by committee members and others.

A separate letter was sent out to all Association members having school work for the foreign born, requesting comparison returns on the value of Americanization work as indicated in punctuality, turnover, accident record, change in rate of pay and loyalty.

American Ideals

Liberty	Work	Faith
Opportunity	Self-Reliance	Hope
Justice	Fair Play	Charity
	Love of Country	

American Born Men

Training in industry for American born unskilled labor has been in the main only for the apprentice group from about eighteen to twenty-four years of age. A few of our member companies, however, have for some years had successful school work for other than apprentice classes.

It would seem that our first care ought to be that the American born unskilled employes have guided opportunity for the school work which in the respective industries are necessary for their advancement. Certain subjects as arithmetic, civics, elementary economics and English are common in need to all.

For examples of such school work refer to the year books issued by Westinghouse Technical Night School and American Bridge Company. (See statistics.)

American Born Women

The large increase in numbers of American born women in industry has made their school and shop training an important consideration. This is a subject that will soon require a separate committee of this Association to care for. Our report includes several articles by government and other experts.

Negro Men and Women

But little has been attempted in education of the negro in industry. Six member companies have classes in the "three R's" and several others are planning for it next year. (See statistics.)

Definition of Americanization

Americanization is the process of assimilation of the foreign born into the American standards of material, mental and spiritual life. It should endeavor to retain and develop the better native qualities of the various races of the foreign born to the end that the whole life of America may be enriched.

J. E. BANKS,
Chairman.

Foreign Born Men and Women

Owing to readjustments of labor in the past year some Association companies report a less number of students in the classes for the foreign born. This condition, however, is expected to be but temporary. Several new companies are providing school instruction in English and citizenship for their immigrant employees. We may on the whole consider the year an advancing one in increased opportunities in industry for school training of the foreign born.

The Federal, State and City Governments evidence a larger concern in the education and safeguarding of the alien and more willingness to provide suitable funds for the purpose. The pub-

lic schools and the industries are coming to a better understanding and cooperation in the work.

It would appear that most of our members give aid and some give instruction to employes in securing citizenship papers. We owe it to our country and to the future peace of industry that we encourage no one to become a citizen who does not impress us as likely to be a desirable one.

From the "Vocabulary for Proposed Text Book" of last year's report there have developed in two member companies lesson leaf sets that will probably be issued in book form. An auxiliary reading book dealing with company management, machinery, equipment, raw material, processes and products has been published for its own use by a member company. Appropriate new books on civics, arithmetic and elementary economics are needed by all industries, who have unskilled labor employes. Special subjects pertaining directly to the industry should always be taught by experienced employes well acquainted with the principles and practice of the company and infused with a spirit of understanding and loyalty toward it.

There is a lack of appreciation, by industries, of the value of their own teaching of the foreign born, especially of the higher classes. Such teaching should result in a clearer understanding and deeper sympathy of employe with employe and effect a closer bond of employe with management. Let the instruction be such that only good may come to all concerned. We need then have no fear of outside criticism.

The standards for teaching of English and for Americanization, revised from last year, are the results of replies to questionnaire. We have many inquiries for such information.

Recreation As an Aid to Americanization

A number of member companies report recreation activities in Americanization. Two of our contributed articles describe the carrying out of recreation plans, one for the foreign-born and one for the negro.

Industrial Combination in Americanization

In Mercer County, Pa., an industrial district, some twenty-one companies have joined in an Americanization program. The

controlling body is the Valley Americanization Committee composed of representatives from the companies. There is a director and assistant director in charge. The instruction is mainly by public school teachers in public school buildings. There is a similar combination at Granite City, Ill., with the work in charge of the Y. M. C. A. financed by the industries.

Relation to United States Government Bureaus

The bureaus of education, labor statistics, women and naturalization have contributed much to the cause represented by our Association. Their bulletins are in part made use of in the preparation of this report. One of our committee members is a bureau division director.

Relation to Urban League

The Urban League was formed to aid the negro in his relations to industry and to society. Such an organization was especially needful after the northern migration began and has proved its continued usefulness.

They have offices with a secretary in charge in some thirty of the large cities of the North. The work appears to be well organized and managed. We think the local chapters of our Association will find it expedient to recognize and cooperate with this Urban League.

Relation to Public Schools

The public schools are preparing to do their part in the elementary education of the unskilled adult, American born, foreign born and negro. Where they have the vision, are financially ready and have properly trained teachers, industry will do well to cooperate. The employes can be encouraged to attend public night school, or teachers provided by public school can hold classes in rooms, furnished equipped and maintained by the industry.

Relation to Chambers of Commerce

The city chambers of commerce are by virtue of position potentially able to develop, to foster, and to exercise leadership in the matter of Americanization, in its various forms, and of

Negro welfare work. Surely this is a subject quite in line with their natural endeavors. The Pittsburgh Chamber of Commerce is maintaining an office for this purpose with a salaried director and staff in charge. Other cities are considering it. We mention the matter in this report because the Local Chapters of our Association can function in a larger way when backed up by chambers of commerce.

STANDARDS FOR TEACHING ENGLISH TO THE ADULT FOREIGN BORN

Revised from previous years.

1. *Economic Soundness.*

The education in English of the foreign born is considered economically sound—no dissenting word.

2.

Where the number of foreign born employes warrants it, a director of Americanization should be in charge. He should report directly to the president or other executive officer.

3. *Census of Survey.*

It is worth while to make an educational census or survey of employes, carefully distinguishing those who are, as regards knowledge of English, safe from accident.

4. *Organization.*

An Americanization committee made up of leading foreign born employes of the various racial groups represented has proved of excellent service in informing, encouraging and maintaining attendance of students.

All the foremen concerned may be formed into an Americanization committee to look after the enrollment, attendance and advancement of their groups.

5. *Informing employes.*

The employe can be informed of school work offered by shop meetings, by foreman and by posters in the various languages. Priests and pastors, when requested, may make favorable announcement. All churches are united in the desire that knowledge of English be extended.

6. *Finance.*

The main part of the financing of the school work should be by the company. Where attendance is not compulsory a small fee may be charged; this has its advantage in steadying the pur-

pose and attendance. Where attendance is compulsory, it is generally agreed that no fee should be charged, and some companies advise that instruction be given on all or part company time.

7. *Location.*

Where entirely financed by the company the school is usually housed in a company building, but in some cases by a Y.M.C.A. or a public school.

8. *Management.*

The management is more often by the company, with sometimes a public school nominal connection; in other cases by the Y. M. C. A. or Y. W. C. A. For an increasing number of schools the teachers are provided by the public school, and the rooms are furnished and equipped by company, who are responsible for enrollment and attendance.

9. *Maintaining attendance.*

Good instruction; sympathetic bearing. Pay for all, or part, of time in school: bonus for school work done. Departmental influence; follow up calls in the shop or home; Americanization committee.

10. *Subjects taught.*

English, civics, history, geography, arithmetic, elementary economics.

11. *Methods of instruction.*

Use the object method in the beginning. This is almost a necessity where instructor is not acquainted with the language of the student.

The dramatic method may apply more or less in the beginning, depending upon the aptness of the instructor as much as the student. This method need not occupy much time of course; should not be overdone.

The theme method may be to some extent profitably used after a beginning is made.

Begin the use of text-books early in the course. A number of good books are now available.

An inclusive method, combining all the good of the foregoing with some old-fashioned common school application, is probably the best of all, depending on length of course.

The correspondence method should be used only when the direct method is impossible.

12. *Instructors.*

Where management is by the company, or financed through a Y. M. C. A., employes have proved satisfactory. Women are more likely than men to appreciate the situation and to quickly establish a right student spirit. For the higher classes men employes will be better acquainted with the vocabulary and practice of the company. In general, American born instructors are best, but occasionally a man or woman of foreign birth and some American training will do excellent work. When of the right sort, the latter have the advantage of the two viewpoints, foreign and American.

13. *Compensation of instructors.*

Instructors should be fairly compensated for the time spent in recitation and preparation; in general a higher rate than for day occupation.

14. *Size of class.*

A class may have from eight to fifteen students. For a brief course in the dramatic method a larger class is possible, but it gives little opportunity for individual aid.

15. *Classification.*

For the beginners, classify by knowledge of English: if number is sufficient, there is some advantage of having groups by nationality. If there be only a few women, not sufficient for a separate class, they may recite with the men.

16. *Length of course.*

Two or three periods a week of from one to two hours (the latter preferable) may be held. This should extend over six to eight months of the year. The summer is not a good time for school work. If the students can be gotten together at evening periods, from 7 to 9 P. M. is best; they have thus opportunity for

washing up, food and proper clothing, a matter which greatly affects their bearing and progress. Where employes scatter to distant homes it may be necessary to have the recitation time precede or follow the work hours.

17. *Certificates and diplomas.*

Give a certificate at leaving with a definite and accurate record of results gained; it will be kept with pride by the student and may be useful in any other school the student may enter. A fairly complete course should be laid out and if completed a diploma may be awarded.

18. *Foreman.*

Instruct foreman to use English only with employes who understand it, and to report to school in writing those who seem unable to understand shop directions given.

19. *Records.*

Such records should be kept as will show total yearly enrollment, average monthly enrollment and average daily attendance. It is well to print at end of school year a year book, to include names and classification of students. This makes good advertising matter for prospective students and puts information in an orderly manner for use in reports to government and others.

STANDARDS FOR AMERICANIZATION

(Revised from previous years.)

1. *Community center.*

Aid in establishing and advancing community centers may be given by interested company officials. This can be done as individuals or as company representatives. (For a suggested program in community Americanization, see Bulletin 76, 1919, issued by United States Bureau of Education and Community Service Activities by Russell Sage Foundation.)

2. *District trained nurse.*

A number of companies maintain a district nurse, a service not confined to employe families. There is probably no better way of ministering to an industrial neighborhood.

3. *District visitor.*

A district visitor is a good co-worker for the trained nurse. The district visitor will find out the needs of the community, family and individual, in body, mind and spirit, and endeavor to direct forces toward relieving and building up.

4. *Publicity.*

Bulletins, pamphlets and plant magazines may be made useful for promoting Americanization.

5. *Safety and health.*

By circulars with pay envelopes, by illustrated posters, and by indoor and outdoor moving pictures and addresses much can be done to interest the employe and his family in bodily welfare.

6. *Recreation.*

A number of companies provide recreation buildings and grounds and encourage dancing, basket-ball, baseball, football and field day sports.

7. *Library.*

Extend to the foreign born the use of the plant library furnishing appropriate books and papers.

8. *Entertainments.*

Good success has been obtained in initiating and fostering musical entertainments and social gatherings devised and carried out by nationality groups of the foreign born. Opportunity is thus given to make special abilities known to American foremen and fellow-workmen as well as to their own people.

9. *Flag raising.*

A flag raising with music and brief addresses may appropriately be arranged for Flag Day or other suitable time.

10. *Legal aid.*

Opportunity to secure legal aid should be offered. For difficult cases it may be well to retain the services of a local lawyer. Much embarrassment and injustice is suffered by the foreign born through lack of proper legal advice.

11. *Naturalization.*

The company should be ready to give any requested aid in obtaining naturalization papers. If facilities for Americanization are offered, encouragement may be given toward naturalization and the matter looked after in an orderly way.

12. *Church and national society recognition.*

Friendly acquaintances and council with religious, national society and club leaders will do much toward establishing pleasing and just relations with the foreign born. What a large part of the strikes and local industrial unrests have had origin in a lack of mutual understanding rather than in intentional unfairness on the part of employes or employed!

13. *Restaurants.*

Much of the inefficiency of certain of the foreign born has come from lack of proper food. The companies who have tried the restaurant experiment are convinced of its value, particularly for the single men. It should be available for the latter every day and every meal in the week.

14. *Savings account.*

Savings accounts for small amounts have been encouraged by several companies.

15. *Financial aid.*

Aid in building homes and aid and advice in investments may be offered to the foreign born. The latter must be done with caution, but the lack of it has permitted much loss.

16. *Value and result.*

With superintendent and foremen it may be insisted that helping to develop foreign born workmen into good Americans is an important part of their company duty. The result of doing this should be the furtherance of an attitude of kindly helpfulness and just consideration for the foreign born fellow-employee.

ORGANIZATIONS PROMOTING AMERICANIZATION

These issue bulletins, circulars and reports:

BUREAU OF EDUCATION

Washington, D. C.

BUREAU OF NATURALIZATION

Washington, D. C.

BUREAU OF IMMIGRATION

Washington, D. C.

UNITED STATES CHILDREN'S BUREAU

Washington, D. C.

UNITED STATES CHAMBER OF COMMERCE

Washington, D. C.

THE NATIONAL ASSOCIATION OF CORPORATION TRAINING

15th Street at Irving Place, New York City

INTER-RACIAL COUNCIL

233 Broadway, New York City

NATIONAL SAFETY COUNCIL

NATIONAL SECURITY LEAGUE

19 West 44th Street, New York City

NATIONAL CONFERENCE OF SOCIAL WORKERS

NATIONAL AMERICANIZATION COMMITTEE

25 West 39th Street, New York City

NATIONAL CONFERENCE ON AMERICANIZATION IN

INDUSTRIES

Kimball Building, Boston, Mass.

YOUNG MEN'S CHRISTIAN ASSOCIATION

New York City

YOUNG WOMEN'S CHRISTIAN ASSOCIATION

New York City

KNIGHTS OF COLUMBUS

New Haven, Conn.

YOUNG MEN'S HEBREW ASSOCIATION

New York City

WOMEN'S CHRISTIAN TEMPERANCE UNION

New York City

INTERNATIONAL INSTITUTE

New York City

SONS OF THE AMERICAN REVOLUTION

Washington, D. C.

DAUGHTERS OF THE AMERICAN REVOLUTION

Washington, D. C.

CARNEGIE FOUNDATION

New York City

AMERICAN LIBRARY ASSOCIATION

78 East Washington Street, Chicago, Ill.

CARNEGIE LIBRARY

Pittsburgh, Pa.

State housing associations, address at State capitols.

City and county Americanization bureaus.

City chambers of commerce.

National, state and city church organizations.

Public, private and church schools.

University, college and technical schools.

Corporation schools. (See Table of Statistics.)

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STATISTICS Schools for American Born Men, Unskilled

COMPANY	Management	Enrollment 1919-1920	Average Attendance 1919-1920	Enrollment Sept. 1 to Dec. 31 1920	Subjects Taught	Vestibule School
American Bridge Company Ambridge Plant	Company	71	40	64	Arithmetic, plan reading, algebra, stenography and typewriting, drawing	No
American Bridge Company Gary Plant	Company	?	?	?	Arithmetic, plan reading, algebra, stenography and typewriting, drawing	No
American Rolling Mill Co.	Company	?	?	?	English, citizenship, arithmetic	No
Atlantic Refining Company Philadelphia Works	Company Teachers furnished by Public School	—	—	37	Blueprint reading, English, arithmetic	No
Bowser & Company	Company	—	—	—	Plant practice and policies	Yes
Ford Motor Company	Company	?	?	3025*	Mathematics, drawing, chemistry	No
Shepard Electric Crane and Hoist Company	Company	66	?	?	Blueprint reading, shop drawing, shop mathematics, practical elec- tricity, typewriting, office training	No
Submarine Boat Corporation	Company	—	—	—	Plant operations	Yes
Western Electric Company Hawthorn Works	Company	?	?	?	Electricity and magnetism, tele- phone practice, practical mathe- matics, mechanical drawing, type- writing, comptometer	Yes
Westinghouse Electric and Manufacturing Co.	Company Housed by Public School	634	400	633	Arithmetic, algebra, English, hy- giene.	Yes
Winchester Repeating Arms Company	Company	35	25	40	Shop mathematics, drawing	Yes 2200 employees in 1920

*Includes men and women, American born, foreign born, and Negro.

STATISTICS

Schools for American Born Women, Unskilled

COMPANY	Management	Enrollment 1919-1920	Average Attendance 1919-1920	Enrollment Sept. 1 to Dec. 31 1920	Subjects Taught	Vestibule School
American Bridge Company Ambridge Plant	Company	23	14	26	Arithmetic, stenography and typewriting	No
American Bridge Company Gary Plant	Company	3	2	6	Arithmetic, plan reading	No
Atlantic Refining Company	Company Teachers furnished by Public School	—	—	8	English, arithmetic	No
Western Electric Company	Company	—	—	—	Telephone practice, typewriting, comptometer	Yes
Westinghouse Electric and Manufacturing Co.	Company	288	200	284	Commercial branches, clerical training, comptometer, sewing	Yes
Winchester Repeating Arms Company	Company	—	—	—	Plant operations	Yes

STATISTICS

Schools for Foreign Born Men and Women

COMPANY	Management	Enrollment 1919-1920	Average Attendance 1919-1920	Enrollment Sept. 1 to Dec. 31 1920	Subjects Taught	Vestibule School
American Bridge Company Ambridge Plant	Company	56	35	125	English, history, geography, citizenship	No
American Locomotive Co.	Company	100	60	130	English, citizenship	No
American Rolling Mill Co.	Company	126	42	70	English, citizenship	No
Armour & Company	Company Teachers furnished by Public School	?	200	250	English, citizenship	No
Atlantic Refining Company	Company Teachers furnished by Public School	—	—	79	English	No
Carnegie Steel Company Duquesne Works	Company	—	—	47	English	No
Ford Motor Company	Company	?	?	500*	English	No
General Electric Company	Company Y.M.C.A. Secretary at Plant	315	250	351	English, civics	No
Graton & Knight Manufacturing Co.	Company Teachers furnished by Public School	30	?	50	English, civics	No
Larkin Company	Company Teachers furnished by Public School	30	26	—	English, civics	No
The Schwarzenbach-Huber Company	Company Teachers furnished by Public School	55	40	50	English	No
John B. Stetson Company	Company Teachers furnished by Public School	161	120	266	English and civics	No
Submarine Boat Corporation Swift & Company	Company	—	—	—	Plant operations	Yes
Warner & Swasey Co.	Company Teachers furnished by Public School	25	16	25	English	No
Western Electric Company Hawthorn Works	Company	30	25	—	English	No
Westinghouse Electric and Manufacturing Co.	Company	?	?	?	?	No
Winchester Repeating Arms Company	Company	275	195	253	English and civics	No
	Company	100	40	200	English	Yes

STATISTICS

Schools for Negro Men and Women, Unskilled

COMPANY	Management	Enrollment 1919-1920	Average Attendance 1919-1920	Enrollment Sept. 1 to Dec. 31 1920	Subjects Taught	Vestibule School
American Rolling Mill Co.	Company	15	15	25	English, arithmetic, geography	No
Atlantic Refining Company Philadelphia Works	Company Teachers furnished by Public School	—	—	9	English	No
Carnegie Steel Company Duquesne Steel Works	Company	—	—	52	English, arithmetic	No
Portsmouth Cotton Oil Refining Corporation	Company	—	—	92	English, arithmetic, history, geography	No
Shepard Electric Crane Hoist Company	Company	2	2	2	Arithmetic and plan reading	No
Westinghouse Electric and Manufacturing Co.	Company	3	3	2	English, arithmetic	No
Winchester Repeating Arms Company	Company	—	—	—	Plant operations	Yes

COMPARATIVE RESULTS IN AMERICANIZATION

George A. Hormel & Company

There has been only one change in pay, a foreign born not attending the school receiving this raise. The comparative rates indicate that those who have attended school average 17 cents more per hour than those who have not attended.

During the periods mentioned there has been no turnover in the groups. The time lost is very much in favor of those not having attended school. Seventeen days having been lost by those attending and only seven days by those not attending.

The only accident in the group of twenty was to a man not attending and only seven days by those not attending.

The loyalty of the twenty men has not been in question during their history with the company.

The twenty men who have been chosen for the two groups were picked at random from those foreign born in our employ. Some of them have been in the United States two months and others for years. Czecho-Slovaks, Scandinavians and Greeks prove to be in predominance.

The Solvay Process Company

We have kept a record of twelve foreign born employes who are attending Americanization School, and twelve engaged in similar work who were not attending this school. The attendance was perfect in both cases, except where men were properly excused or sick, the amount in these cases being practically the same. There was no labor turnover in either case, except that due to reducing force on account of slowing down production. The accident record was perfect in each case. There were no rate changes in either case, and so far as we were able to observe, there was no difference in loyalty. This study was carried out for a period of four months.

John B. Stetson Company

With reference to our group of foreign born as compared with our group of American born of similar standing, we have

compared very carefully during the months of November, December, January and February and thus far we can see practically no difference other than in attendance and loyalty.

We can see that the foreign born who are attending the naturalization classes are more interested in the company and show their loyalty decidedly more than those who are not attending the classes. We notice too that these men are much more careful in doing their work. It is entirely piece work and so much depends on the actual care that the man puts on his individual work. We have much less work spoiled by those who are attending the classes than those who take no interest in the educational program.

RACIAL ADAPTABILITY TO VARIOUS TYPES OF PLANT WORK

By HORACE G. HILL, JR., *Manager Industrial Relations*,
The Atlantic Refining Company.

During the recent labor shortage, which was created by the unusual war activities and remained through the period of inflation subsequent to the armistice, it was necessary for employers of unskilled labor to utilize whatever men were available at the time. As it was impossible to fill all requirements with American labor or even English speaking foreigners, it became essential to offer greater opportunities to men of all nationalities and colors. A great many expensive experiments were made with the idea of discovering other types or groups of men who would prove suitable for training in various branches of industrial work and it soon became evident that each nationality had one or several kinds of occupation for which they were best fitted, and that each occupation could best be done by some specific group. The generally accepted traits and characteristics of the different nationalities proved to be a very poor guide in determining a man's ability to perform a certain class of work and it was soon realized that it was necessary to actually try the men out in these different lines before it could be stated that one group was better or worse than others.

Your committee has therefore considered it advisable to accumulate whatever evidence was available which would tend to show the relative adaptability of various nationalities to various types of manual effort based on the actual experience of large employers who had made the experiments and were willing to give other employers the benefit of their conclusions. It is thought that a compilation of these conclusions would be a real assistance to any industry which finds itself in the position of either utilizing an available supply of unskilled men or of developing an efficient force to perform certain prescribed tasks. The combined experience of sixteen large employers of unskilled labor is contained in the accompanying tables and, while not being abso-

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lutely conclusive, it will at least serve as a guide for those who have not developed their own opinions to their full satisfaction.

The figures in Table I represent the averages of the ratings given to each combination of nationality and occupation. A rating of ten (10) denotes "entirely satisfactory" and zero (0) implies "absolutely worthless." The average rating for each nationality gives a fair relative proportion between the general adaptability of the various nationalities to any kind of plant work.

Table II contains the same information as in Table I, but in a more compact form. All ratings up to "3" inclusive were classed as *Poor*; from "4" to "6" inclusive were classed as *Fair*; and from "7" to "10" inclusive were classed as *Good*. This division will probably be as close as most employers will care to use and in the majority of cases Table II will give sufficient information to serve as the desired guide.

The conspicuous conclusions to be drawn from these figures are:

- (1) There are five nationalities (American, Irish, Lithuanian, Scotch and Slovak) which are at least fairly satisfactory on any type of plant work.
- (2) There are at least two nationalities which are pre-eminently satisfactory on each type of work.
- (3) With the exception of the Belgians, there is at least one type of work for which each nationality is particularly fitted. This one exception is probably due to the fact that comparatively little is known of the general adaptability of this group.
- (4) In what might be termed the common, or construction labor class of work, the Irish, Italians and Slovaks seem to be best adapted.
- (5) In what might be termed the mechanical labor class of work, the Americans, Lithuanians, Scotch, Welsh, Canadians and English seem to be best adapted.
- (6) In what might be termed the process labor class of work, the Hungarians, Austrians, Ukrainians and Russians seem to be best adapted.

It should be realized, of course, that there will be many individual exceptions to the general conclusions as outlined above

and it must not be forgotten that personality means more than nationality. However, the remarkable uniformity of the opinions given by the companies who have cooperated in the compilation of these figures shows that there is some element of practical value contained. It is safe to assume that, when the traits and abilities of the individual are unknown, success is more likely to be obtained when the average experience of others in a similar direction is followed.

The Committee desires to express its thanks for the pleasing response which was made, at the cost of considerable time and trouble, by those companies and individuals who supplied the material upon which this report is based.

TEACHING ENGLISH TO FOREIGNERS

By MARGARET B. REISCH, American Rolling Mill Co.

Many times I am asked the questions, "What do you teach them," and "how do you teach them?" It is a great deal easier to give an answer to the first of these questions than to the second. To the first I say, "Well, I teach them to read and write and speak English. I teach them about the history and government of the country, and all that goes to make a good American citizen." But the answer to the question—how do you teach them—is almost out of my power to give. So far as the method is concerned, there are always a number of ways a thing can be done. Hence, there are a number of methods of teaching English to foreigners. If time permitted we might enter into a lengthy discussion on each one. In order, however, that I may use the time to the best advantage, I shall give you points from my own experience. It is with this method, of course, that I am most familiar.

Aside from the actual work done, toward accomplishing good results there must be something more than the teaching of lessons. There must be something behind the process—something to give it "push" as it were.

1. There must be the desire on the part of the teacher to teach these people. She must have a sympathetic, self-sacrificing spirit, keeping constantly before her the idea that she is there to help them in the simplest, most effective way possible.

2. There must be the desire on the part of the pupils to learn. They must realize that it is for their own good to learn these things, and must have a real desire to come to school.

3. There must be something to teach them which will be of the most immediate use to them, will hold their attention, and which will best serve to develop them into Americans in thought and deed.

Each of these points can be developed and discussed to advantage. I might say in passing, that in my opinion the first is most important, for I have learned that success is impossible in any work, if the heart is not put into that work.

We have three grades of work in our classes at the mill; beginners' work, which includes those who cannot speak English, and also those who can speak it, but cannot read or write anything in any language; intermediate—those who can read and write and speak a little English; advanced work—those men who are studying faithfully to learn about the country, its government, and history, to help them in securing second papers.

The intermediate and advanced work, I shall talk on at the same time, leaving the beginners' work until last.

We all know that in order to meet with success in any undertaking, there must be a definite plan or system to be followed. The time we are given for recitation is limited, therefore, we must have a fixed program for study. The average class meets for approximately 1 hour and fifteen minutes—75 minutes—twice a week. We try in this time to give a certain amount of reading, writing and speaking. When you bear in mind that these people are eager to learn, that they realize as a rule the advantages they gain by learning English, then consider the little time spent on it, you can understand perfectly why I say there should be a definite program of proceedings. You may well judge also, that a man has little time for the usual school boy pranks and stunts with which the average school teacher has to deal. They are all full-grown men, with a definite object in coming to that class room, and the wise teacher who realizes this will do well her part to give them the very best she can in this short time.

Let us divide our period, therefore, into four different subjects:

- (a) Conversation, which is the most important.
- (b) Reading.
- (c) Spelling (grammar, at the same time).
- (d) Writing (spelling at the same time).

To conversation and reading, I allow 40 minutes, and to the other two subjects the remaining 35 minutes.

Conversation.

When a man comes into the class room, start immediately to talk to him. Never let him sit idle, waiting for those who are late. Get him into conversation. Everyone knows a few words,

such as "purty good" or "nice day," etc. If he cannot talk, place the answers to the questions you ask him into his mouth. Have him repeat the answer two or three times. By gestures show him the sky, the sun, the rain, etc. Make him understand when a day is too hot or too cold, then the proper thing to say when asked how he likes it. He will say, "No like," or "Too much hot," then is your chance to teach him to say, "I do not like it, it is too warm today." And he will understand perfectly. Ask him about his health, his home, or his work. By doing this he feels that you are interested in him personally, and after a while you will gain a confidence which he does not give every American he meets. This will be a great help to you, and you may feel justly proud of this confidence. At every opportunity he should be given the chance to talk about the things in which he is interested and at all times the teacher should lend a sympathetic, interested ear.

Reading.

This work should not be too hard for him. It is better to have him begin in a class that is too easy rather than a class that is too hard. It is so much more encouraging to promote him, than to make him feel that the work is too hard, by having to place him in an easier grade. During the reading lesson pick out the hardest words, write them on the blackboard with the idea of having a spelling lesson afterwards. As the lesson progresses, the teacher should always be thinking of questions to ask on what is being read and that will bring out conversation. Repeat yourself the sentence a man has just read, and then explain the meaning of it, in simple terms.

Perhaps the best example of this is the answer to the question, "What is the Constitution?" The answer as it is given in our books is: "The Constitution is the fundamental law which creates the several branches of government and defines the powers entrusted to each."

Each word should be made as simple as possible. The simplest meaning of the answer should be given. They should be taught not only that answer but the meaning of that answer. I do not think we should give them a list of questions, and tell them to learn the answers so they can say them from memory. There

is too much mechanical work in that, and not enough chance for them to think for themselves. Let them be taught to repeat the answer, but at the same time give them a full explanation of the meaning of that answer in plain, common, everyday English. In this way he will learn to shape his own thoughts into sentences, and those expressions will tell you that he understands clearly what he is studying.

In every group will be found the man who is either too timid to talk, or who cannot talk for lack of a vocabulary. Such a one must be encouraged and almost coaxed into saying things. On the other hand there is one in the average class who would do all the talking. A teacher must always be on the lookout for this sort of a scholar, and take him in hand from the beginning. Otherwise the jealous feeling that "Andy is the only one allowed to talk in that class," will grow upon the other members of the class. Those who feel slighted will drop out, feeling that they didn't have the proper chance—a square deal—and as a result the attendance goes down. The man who quits on this account is very apt to feel also that he can never learn to talk like Andy. He may become discouraged, and the only chance he has ever given anyone to help him will have been lost, perhaps forever.

To illustrate the reading part of the lesson take the pages we read the other day on health. As the class read, one by one, I picked out the words, vaccination, contagious, quarantine, pure water, cleanliness, removal, sewage, garbage, ashes and other words, and wrote them on the board. I asked each one to define one of these words which happened to be in his part of the reading matter. Thus, "Mike, what is vaccination?" Mike gave a shrug of his shoulders and said, "I don't know." "Well, Mike, every girl and boy before starting to school must be vaccinated" and I showed him my arm, and made the motions of a vaccination being placed there. "Oh," said Mike, "you call this vaccination?" "Yes." "My country call this . . ." and he gave me a long word that I never could remember. He understood perfectly, and the next time I asked him, he did exactly as I had done.

If in attempting to define a word a man happens to give the wrong meaning, or makes any mistakes, he is not laughed at. Ridicule in the classroom is a thing which is felt more keenly

than anything else, and if permitted will only serve to kill the class as well as the work. Everything is not serious and dry, however, for we have lots of time to laugh and have a little fun. But it is never brought about through the humiliation of a classmate.

Writing.

Now the writing lesson. Don't start them off writing some big words for which they never have any use. Give them easy words. As the writing goes on help them to spell each word correctly. With this particular lesson, I had them write the sentence, "Each man has his share of the work to do in preventing the spread of contagious disease." They wrote it, we re-read it, and then talked about how each of us could do his part. Then we spelled and defined all the big words I had written on the board and the time had gone. At this time, singulars and plurals can be taught, also the tenses of verbs, and other things that are taught as grammar in the schools.

Some of the other sentences we wrote this week were, "In our country we spend a large sum of money each year for education." "Those who come here can fit themselves for life in this new home." "They can make the community better for their coming." "Some of the best citizens are those of foreign birth." When we discussed the word "birth" we started the discussion by talking about birthdays. This opened the way to conversation immediately and we had a lengthy and interesting talk about their customs in their countries in regard to naming the children, about the godfathers, about the baptism, and religion. I made each man tell me something about the customs in his own country. Every man had a chance to talk. Then we repeated the sentences without looking on the papers, being careful to fit each word into the proper grammatical order.

Many times about five minutes before closing time, I allow the entire class to drift into conversation. Perhaps it is started with the definition of a word. The other day we had the word Paradise. I said, "Joe, do you know what paradise means?" Joe acted very bashful as is natural with him, and upon further questioning said, "Yes, I know paradise." He closed his hand, shook it as if rolling dice, opened it again on the table, and said, "Pair

o' dice." Well, it was time to laugh then, but we didn't—surprising as it may seem. I showed him the difference, just I do you on this board. Then I got them to telling me what was done with a pair of dice, and each one had something to say, I can assure you.

There is one part of the work which is exceedingly interesting to me. Just as any other teacher, I have a part of my work that I like best. It is the work among beginners. I would rather be placed in a class of men who can speak scarcely any English, give them the lessons and watch them improve, than in with those who are third grade. It is the hardest work, that which requires the very hardest brain work, but somehow I like it best. I am always anxious for the new scholars who have been here but a comparatively short time.

These we teach by a direct object method. We take a lesson with about 10 sentences in it and have as many as possible of the objects mentioned in that lesson at hand. Sometimes only the pictures, and sometimes it is necessary to draw pictures on the board. I take the first sentence, thus, the first sentence in one of our beginners' lessons is "The alarm clock rings at six in the morning." I show the picture or the object and illustrate the sentence. I say the whole sentence, they repeat it until they understand it entirely. We take the second, "It is time to get up." Then we take the first and the second together, and we go through the entire lesson that way. By the time we have finished some of them can repeat entire sentences almost without the help of the teacher. Others must be prompted. Again each man is given the chance to talk, repeating the sentences after the teacher, and showing her that he understands it. Then they are given copies of the lesson, and we read it. First in concert, then each man takes a sentence. Then the papers are turned down, and each man is asked to give from memory something that is on that paper. Again he must be helped by the teacher, for sometimes he remembers only a word or two. Then when the lesson is understood by all they are given a paper and pencil and are told to write it. This is real work for some of them, and requires quite a little personal attention from the instructor. The next time the class meets, questions are asked on this lesson in such a way as to make it necessary that they give a full answer. The

question is not asked, "Louis, do you get up at six o'clock in the morning?" to which he would invariably answer "yes." But rather, "Louis, what time do you get up in the morning?" He must give the answer "I get up at 6 o'clock in the morning."

There are many other things in connection with this work, such as attendance, visiting, advancement, women's work, etc. Much of the success, as stated before, depends on the teacher herself. She must ever keep before her the fact that the alien who comes to her for English is looking for something which will be a benefit to him.

She must always feel a real desire to help him and then must give him the very best this country has to offer. When we have taught the Italian, the Greek and the Hungarian the principles and ideals of America, and have extended to him a friendly hand; have given him a square deal, in school, on the street—wherever we come in contact with him—then only will he develop that love and respect for our country and its flag that shall make him an ideal citizen, and our country the better for his coming.

AMERICANIZATION EFFORTS WITH THE JOHN B. STETSON COMPANY

By MILTON D. GEHRIS, *Second Vice President*

When we were in the midst of the readjustment period in 1919, it occurred to us that we ought to assist those of our foreign born employes who were not citizens. An invitation, therefore, was extended to all foreign born employes to meet in our Auditorium on the afternoon of November 10, at five o'clock, after quitting time. About 450 attended. Mr. Cummings, our President, presided. Addresses were made by Judge Joseph Buffington of the United States Circuit Court of the Eastern District, Mr. Alexander Alessandroni, an Assistant District Attorney, who spoke in Italian, and Mr. Gurnett, who had charge of Naturalization in the Philadelphia District.

Arrangements were made with the Educational Department of the Y. M. C. A. to conduct classes in English and Naturalization three afternoons a week from 5:00 to 6:00 o'clock in a hall of the factory set aside for social service. About 120 enrolled in the English study classes and 200 in the Naturalization classes. The interest of the classes was such that we appointed an assistant to the superintendent and assigned him to the task of assisting foreign born men in securing naturalization. An office was equipped for him in the department where most of the foreign born are employed. He filled out their applications for citizenship and accompanied group after group to the Federal buildings where they filed their applications. We soon learned that this was necessary to keep up the ambition of the men to become citizens. They met with so many rebuffs and had to go through so much red tape, which was almost entirely eliminated by the assistance of this junior assistant superintendent. As a result 269 men applied for their first papers, 163 for their second papers, and 50 received their full citizenship by the end of the school year in April. We presented each one attending the English classes with a little certificate, certifying that he had attended school.

The naturalization work continued during the summer of 1920 and in September classes were again organized. We were well

satisfied with the results attained through our connection with the Y. M. C. A. educational department, but the naturalization committee of the chamber of commerce and the Government Naturalization office prevailed on us to conduct our classes under the auspices of the Board of Public Education. Arrangements, therefore, were made with the superintendent. A principal was assigned to our work and with a corps of seven able assistants as teachers, the classes were started again in September of last year. For some reason the interest manifested was even greater than the previous year. A foreman or assistant foreman was assigned to each class to act as secretary and take care of the roll. Instead of having the sessions of the classes for one hour, we commenced the classes at 4:30 and continued to 6:00 o'clock. The secretaries kept a constant check on the men and as soon as one would stay away from the classes the secretary would remind him that he was missed. The enrollment this year is 196, with an average attendance of about 75%.

When starting our campaign for citizenship we had 587 foreign born in our employ who were not naturalized. One hundred and seven of these received their final papers, 307 applied for first papers, 96 applied for second papers, 69 are waiting for their first papers to mature and 8 have not applied at all; 3 of these are too young to apply, 3 are in such condition of health that it would not be wise for them to apply and 2 are foreign salesmen who cannot secure citizenship while they are out of the country on as long periods as they are usually away. We are pleased to say, therefore, that we can report about 98% of our foreign born as American citizens or citizens in the making.

We had two socials for the foreign born and their families during the year. It was most interesting to have the men come with their wives and children. They seemed so proud of their little flocks, and all were dressed up for the occasion. I am sure the barbers in the neighborhood had a special spurt of business, for every boy had his hair bobbed in the latest fashion. After an evening of music and some moving pictures everyone had ice cream and cake and with very few exceptions they thanked us for the very enjoyable evening.

Our Personnel Department is the clearing house for the needs and troubles of the foreign born. They seem to feel that we can

adjust any difficulty from a family quarrel to investing their savings in homes or buying Stetson stock for them. Our officers are never too busy to see an employe and we are always pleased to assist them in any problems they may have.

AMERICANIZATION WORK WITH THE WESTINGHOUSE ELECTRIC & MANUFACTURING COMPANY

By I. B. SHOUP.

The Westinghouse Electric & Manufacturing Company is one of the foremost organizations in industry in providing means of development, and forms of service for individual employees. This company has recently published a booklet entitled "Activities Beneficial to Employees" outlining some thirty-five or forty forms of such service. The extent of the service outlined in this booklet easily indicates the desire of the management to put before the employee every possible means for personal development.

Among these activities of service to employees, has, within the last two years, been added a plan for Americanization of foreign born employees which is at once one of the most comprehensive, and practical yet inaugurated by any industrial concern in this part of the country. The results from its operation during the last two years well justify its place as a means for service as well as its form of organization.

A committee known as the Americanization Committee has been formed in connection with the Employment Department. This committee is composed of eighteen men, all of whom (excepting the chairman and the secretary) are of foreign birth. Membership on the committee is conditioned on foreign birth, naturalization, the ownership of property in the community, and a high standing among the employees in that section of the works which each individual represents as a committee man.

Because of the close connection between education and Americanization work, and the necessity for the use of records of employment, arrangements have been made to correlate the activities of the Americanization committee with both the educational and the employment departments. This is done by a representative of the educational department acting as chairman of the Americanization committee, and a representative of the employment department as secretary. Frequent meetings of the committee are held at the call of the chairman to discuss questions relating to the

foreign speaking employes, and the methods of securing their interests and attendance at classes.

The committeemen have a specific function of locating foreign speaking employes in their respective section and interesting them in learning the English language, and becoming American citizens. Any foreign speaking employe of the company may make application to enter a class in English and Americanization through the member of the committee located in his section, or by communicating directly with the secretary of the committee in the employment department.

Classes (six at the present time) are conducted at various places throughout the works, such as general foremen's offices, lunch rooms, rest rooms, etc. These locations have been chosen because they adapt themselves well both in regard to equipment and convenience in location. Sessions are held twice a week, either Monday and Thursday, or Tuesday and Friday between 4:30 and 5:30 P.M., the hour immediately following the close of the shops.

The educational department is responsible for the furnishing of instructors and the development of the course of study. The instructors carrying on the work at the present time are, for the most part, graduate students who are at the present time working in the shop. These instructors meet once a week to discuss problems relating to instruction work and the development of the course of study. It has been found that the foreign born employes are particularly interested in learning along two different lines, namely:

1. The use of English language as a means for communication.
2. Information in regard to the Government of the United States, and in regard to local government.

In accordance with this a series of lessons conforming to these interests, and text books are used, but are supplemented very largely with material relating to the history and organization of the Westinghouse Electric & Manufacturing Company. Some of the topics are as follows:

Beginning and growth of the Westinghouse Electric & Manufacturing Company.

The safety of employes.

Comfort of employes. (Drinking water, lunch rooms, etc.)

The works magazine. (The Westinghouse News.)

Opportunities for training open to employes. (Westinghouse Technical Night School, trades apprentice courses, and the Westinghouse Club.)

Systems of payment.

The employes reward for working steady, such as transfers, promotions, etc.

The employes' relief department.

Service pensions and veterans' association.

Savings fund and insurance for employes.

These things, as is very natural, have been found to be of great interest, as well as forming material for the proper instruction in the English language. They furnish the members of the class a fund of very useful information.

The second fundamental interest of the foreign born employe, as mentioned before, is knowledge of the American government. This information must of necessity be given every foreigner before he can become an American citizen. Those persons who have declared their intention to become American citizens are always vitally concerned with this instruction. For this reason a part of the course of instruction relates specifically to naturalization. Two years must elapse between the time a foreigner makes declaration of intention to become a citizen and the time at which he is eligible to citizen papers. During this interval he has an opportunity to secure the things necessary to pass the examination of the naturalization officer of the court by attending Americanization classes. In studying the form of government, emphasis is placed on the human side, and brief studies made of the leading characters that have marked the different epochs of our national history.

A very great service is rendered to the foreign born employes in securing naturalization papers and to employes desiring to make declaration of intention. They first take up the matter with the committeeman in the department in which he works, and later with the secretary of the committee. When a number of names have been secured by the secretary, arrangements are made with the naturalization office in Pittsburgh for attention by

appointment at a stated hour. This arrangement made, the employes are taken by automobile to the naturalization office, a distance of twelve miles. The trip requires three hours, and the time lost from his job by each individual is thus reduced from a whole day as is necessary for the trip when an individual is required to go to the office without an appointment.

In the case of securing naturalization papers (second papers) the company through the organization of the Americanization committee is of even more service than in the case of an employe making declaration of intention. The procedure through the committeeman and the secretary of the committee is the same, but in this case the company pays the individual for his time, and that of his witnesses when the applicant goes to apply for second papers, and again when he is called for his final hearing before the Federal Court.

At the end of the class sessions in May of each year, it is customary to hold a banquet which is a function:

First, to provide an occasion for the presentation of certificates to those who have attended class and have met certain requirements as to progress and attendance. Certificates on this occasion are presented by the works' manager.

Second, to provide an occasion for formally recognizing as "New Americans" those employes who have, since the last annual meeting, secured their naturalization papers. Some well known outside speaker who is interested in this line of citizenship development is secured to make the address to the new citizens.

The plan for Americanization as outlined above has worked out in a very satisfactory manner, and it is understood that no changes in the present organization are contemplated at the present, which indicates that the results being obtained are satisfactory to those concerned.

VALLEY AMERICANIZATION COMMITTEE

By RALPH MORGAN, *Director.*

The Valley Americanization Committee was established early in the year 1917. The aim in establishing the committee was to further Americanization work in the communities of the Shenango valley, in northwestern Pennsylvania. This district included the boroughs of Sharpsville, Farrell, Wheatland, the city of Sharon, and the community, Masury, just over the Ohio state line. The total population of this district is about 52,000. Conservatively, 14,000 of these are of foreign birth, or still cling to foreign standards.

The idea of doing local Americanization work was instituted as a result of the very live interest displayed by local industrial managers and superintendents.* The work was mentioned at first by the Farrell Commercial Club and later active steps were taken and the movement really set up by the Sharon Chamber of Commerce. This body took up the task of underwriting the first year's budget. This was, however, unnecessary, for the keen interest taken by the industries spelled the best of cooperation from the very beginning, and they soon took the budget over and made the committee an independent body.

The work was so arranged that first classes were opened on April 2, 1917. A tremendous amount of work in preparation had been put in. Thousands of pieces of publicity were used, and by means of a questionnaire card filled out by foremen for every foreign born man in the local plants, the field was thoroughly covered in advance of the opening night.

On the opening night every member of the committee was on hand. Eleven classes were arranged for. The committeemen did not know whether to expect two or two hundred. However, if they had any fears they proved not well-founded for more than two hundred men of more than twenty nationalities filed in the doors and took the places assigned them.

Since that time classes have been held two evenings per week, on Mondays and Thursdays. During the period from April to

*(Several of these represent N.A.C.T. member companies.)

the summer of 1917, the classes constantly grew and were well attended.

The committee has made its chief aim, the teaching of the foreign born to speak, read and write "American." This one thing it has constantly held as its first duty, and a real effort has been made to do the one thing and do it well in the belief that the rest of the Americanization process will take care of itself, provided correct direction is inculcated in the foreign student's mind in the standards and ideals of the people of the United States.

Assistance in naturalization is the second most important thing the committee has seen as necessary to be accomplished. In the four years of the committee's work, it is safe to say that fully two thousand men have been started through the steps necessary to secure naturalization.

Splendid success greeted the efforts of the committee during its second and third year, and it has been increasingly evident that the work that the committee has tried to do to aid the foreign born of this district has been, and is, deeply appreciated.

A brief résumé of the work thus far accomplished during the present year, from April 1, 1920, to March 15, 1921, is as follows:

It is the belief of the committee that the results of the last year, as testified by the record attendance, both as to numbers and stability, justify the confidence placed in the work by its supporters. Through the medium of lesson material, based to a considerable extent on stories from American history, an effort has been made to inculcate into the foreign born an understanding and appreciation of American standards and ideals, and thus to make the foreign born man or woman eager to benefit from the advantages of citizenship.

That this effort has been successful to a marked degree is evidenced by the record breaking number of men who have asked for naturalization. The proof that the Valley Americanization committee has stimulated the great interest in naturalization is to be found in the greatly increased number of petitioners who have made application for final hearings and for first papers. It is a matter of record that all high marks set for "first" and "second" paper applicants were shattered last year and in May, 1920, the largest number of citizenship papers in the history of Mercer County Naturalization Courts were granted.

As follows is a brief résumé of the work of the committee from April 1, 1920, to date:

Schools were maintained by the committee at the Valley Mould & Iron Corporation, and the Shenango Furnace Company, at Sharpsville; at the High School annex, Penn Street, Sharon; at the plant of the Standard Tank Car Company, Masury; at the plant of the Carnegie Steel Company, Farrell; and at the James A. Farrell School building, Farrell.

Total number of classes, 20.

Total registration in all classes, 1571.

Total male registration in all classes, 1552.

Total female registration in all classes, 19.

Total sessions for the whole year, 67.

Total aggregate attendance at all classes, 14,364.

Average attendance per session at all classes, 214.

Greatest attendance at any one session, 522.

Nationalities represented in classes, 31.

The school year was divided into two terms, spring and fall.

Spring term—April 1, 1920, to June 14, 1920.

Number of sessions, 21.

Average attendance per session, 150.

Enrollment, 290.

Fall term—September 27, 1920, to April 1, 1921.

Number of sessions, 46.

Average attendance per session, 325.

Enrollment, 1281.

The monthly average attendance for all schools for the past year are below:

April	143
May	167
June	141
September	426
October	382
November	304
December	296
January	281
February	287
March	297

Early in March, 1921, three classes for women were established. The active students number sixteen. Two of the classes are neighborhood classes with the teacher visiting and teaching the women at their homes. These classes have been highly successful during the short time they have been operating and the women are showing a keen interest. Plans are now being perfected whereby two more such classes will be in operation not later than April 1st.

Two special citizenship classes were conducted during the year for the purpose of assisting those who had petitioned for naturalization to prepare themselves for final hearing. The classes were held in April and August. The enrollment was 126. In all, 163 men were granted citizenship in Mercer county last year, and of this number 114 were directly assisted by the committee. This is approximately 70% of all granted in the county. Incidentally, the May, 1920, class was the most successful and largest in the history of the committee, and not one man who had attended the class was refused for the reason that his knowledge was insufficient. Two men were aided in final hearings at the Trumbull County Court in December, bringing the year's figure to 116.

During the year all previous records of the committee were broken when 559 men were transported, free of charge, to Mercer and Warren county seats. Of this number, 397 were "first paper men," or men taking out declarations of intention. This, too, was a new record.

Of the remaining 162 men, fifty-four were petitioners for naturalization, and 108 were witnesses—again a new record.

Fifty requests for certificates of arrival were forwarded by the committee to Washington, so that, counting "declaration of intention men," "petitioners," and "certificate of arrival men," the committee aided 563 men in becoming citizens, and in 116 cases the process was completed.

Approximately 550 inquiries of a very varied nature were cared for at the office and at the schools of the committee. In a great number of cases material aid was furnished. A case in point was the assistance rendered to foreign born men who had overpaid on income tax for 1918 and 1919 and wished to make claims for refund. One hundred and thirty such cases were

handled and claims aggregating \$4,900 were entered. Of this amount there has been returned \$497.

One of the features of the committee schools is the musical program that is rendered each evening just previous to the opening of classes. Several patriotic American songs are sung, opening with "America" and closing with "The Star-Spangled Banner."

During the year two programs of a patriotic nature were held. The first on June 14, 1920, was attended by more than two hundred and was highly successful. The second was held on December 16th, and was even a greater success than the June program.

Perhaps the most important results the committee have secured are in the confidence that has been built up in the committee by those of foreign birth. It is becoming more and more evident that the efforts of the committee are appreciated, and, with this appreciation, a deep-seated confidence in all that the committee plans and does is being built up. Based on the results secured in its four years of effort, the members of the committee are honestly of the opinion that a valuable and lasting work has been done.

COMMUNITY RECREATION AS A PART OF AMERICANIZATION WORK

By A. H. WYMAN, Carnegie Steel Co.

Americanization has been popularized within the last few years. Social organizations, educational institutions and industries have fostered classes in English, developed Teachers' Institutes, and stimulated foreign born employes to become American citizens. Many plans, programs and schemes have been fostered in order to stimulate interest in Americanization work. The word "Americanization" is as broad as it is long. Many schemes have been instituted and developed under this title. Every educational agency wanted to encourage some phase of American life for the foreign born inhabitants. Elaborate programs have been worked out, whereby the immigrant would be made to enjoy the advantages, protection and comforts of American citizenship. Smaller and less elaborate programs were tried out with the idea that the fundamental principles of Americanization were to be able to learn, read and write English. I have seen both schemes in operation and I am sorry to say that most of these well planned activities are gradually dwindling in interest, until very few foreign born students remain to finish their course. Why have so many of these well laid schemes failed to continue the interest of those who have set their hearts upon becoming American citizens? My answer to this question could be quickly summarized in the following sentence. Those interested in Americanizing our foreign born inhabitants have neglected to work with, rather than for, the people interested. We are all apt to make this same mistake in our earnestness to put across a constructive Americanization program. Our Boards of Education have, in a number of instances, failed because of the lack of properly trained Americanization teachers. Social agencies have failed because of petty jealousies as to who should direct and supervise the Americanization activities. Industries have gradually begun to realize that it is the duty of the school boards to teach English and to encourage their employes to attend classes under public school supervision. What industry has done in conjunction with outside social agencies and

boards of education has been to encourage and cooperate with those interested in teaching English. The Industrial Welfare Departments have encouraged recreation as a means of teaching American ideals through play. The Americanization system that has had marked success in holding their English class attendance have fostered entertaining features. Take for example, the Akron system, which has combined recreation and socials with the English class work. The home classes have developed into neighborhood social groups. Singing societies, glee clubs and folk dancing classes have developed from bringing together different nationalities for the purpose of stimulating true Americanism.

We must realize that the leisure time of our employes should be planned for as well as the working hours. This has been forcibly brought home to us in the last few years, or more especially since the daylight saving scheme has been in effect during the summer months. The different towns and cities have added the extra hour in the evening, but have failed to provide activities for this leisure time of the people. This need was partly met during the war, by stimulating interest in community and home gardens. These gardens did relieve the stress and strain for some classes of employes, but the seriousness of the world war needed more relaxation than was offered through gardening to lift the spirit of the people. Organized play was needed. Mass activities were found necessary for our existence. Here again, industry met the needs of the community. Industrial welfare and personnel workers got busy and formulated plans by which they could stimulate American ideals and ideas of recreation through play, for the family as a whole. The successes achieved through Americanization work have been due to a clearer and better understanding of the peoples we have to deal with. Through Americanization teachings we have been able to stimulate a civic pride that has worked wonders in our industrial communities. Through play and social gatherings the foreign born have been welded together into efficiently organized American groups.

In the Carnegie mill communities an effort was made to stimulate and help foster recreational activities for the whole family group. The activities for mill employes have been both athletic and social. Definitely organized playground activities have been supervised by trained men and women physical direc-

tors. Playground cities have been organized in seven of the Carnegie playgrounds. At each of the playgrounds bi-monthly elections are held by the children in attendance to elect a mayor, chief of police, park commissioner, director of health, etc. These officials hold meetings at which playground policies are worked out, discipline enforced and play activities planned for in advance. A great civic value has been achieved by a close supervision of this playground city scheme.

In the evenings on the playgrounds, the older people of the community gather for group and team contests. Social and folk dancing are enjoyed by all. Foreign mothers' clubs have held lawn fetes and socials at the playground. Play fests have been encouraged, especially in the evenings, at which foreign born groups have demonstrated and enjoyed their native folk dances and folk songs. A type of entertainment must be worked out which will bring together different nationalities to enjoy a common program. We must get them teachers of their national songs and folk dances to have them take part in our entertainments and pageants.

I once saw one of our competent playground instructors teaching the Hungarian Csardas to a group of Italian, Polish, Hungarian and American children. A suggestion by a bystander, who offered a correction in regard to one of the steps, led the instructor to discover a very clever Hungarian dancer. This Hungarian was employed as a common laborer in our mills, but still had the ability of an artist. Of course, his services were secured as a leader and teacher in our playground folk dancing classes.

In our community centers, where we stage entertainments, it is not uncommon to see at least eight or ten different nationalities taking part under the direction of our expert supervisor. By encouraging them to dramatize their own native customs and traditions, we have added greatly to the success of bringing these different foreign groups into a more friendly relationship with each other.

Pageantry has played a great part in our community programs. Each year all nationalities have combined to make our Fourth of July celebration, safety first, and playground pageants a success.

The following program is typical of what has been successfully staged:

1. Ruthenian mixed choir; Ruthenian dance and duet.
2. Croatian song society.
3. Roumanian dances.
4. Polish songs.
5. Scotch dances (sword dance and highland fling).
6. High school glee club.
7. Welsh singing society.
8. English folk dances.
9. Gymnastics (Turner and Slovak societies).

One of the most interesting and greatly appreciated summer activities for the foreign family has been the company picnics. The whole family have taken advantage of these opportunities to get into the country with their neighbors for a glorious day's outing. They have entered into the spirit of the outings with a will that has demonstrated their appreciation of the chance to play and mingle with other fellow employes and their families.

An interesting study of what recreation has done to help people and to make them wholesome was made in Cleveland, Ohio, under the direction of the Cleveland Foundation. This study is tabulated as follows—from a survey of one hundred and sixty citizens over twenty-five years of age. Each was carefully interviewed as to recreational habits in five life periods. They are:

Elementary school period—Reading, home duties, games.

High school and college period—Reading, dancing, theatre going.

School to marriage period—Reading, theatre going, dancing.

Marriage to past year—Reading, theatre going, visiting.

Past year—Reading, entertaining, theatre going.

"It will be observed that reading stands constantly first, that dancing is a recreation of youth, dropping out after marriage; that theatre going increases in popularity in the early adult period, but gives way to visiting and entertaining with a development of home life."

I have tried to outline some of the recreational activities that help to stimulate wholesome citizenship. The family recreation

has been cared for through playground activities for the children. Mothers' clubs and social gatherings for the mothers in the community houses, and athletics for the older men and boys.

We often hear the question asked, "What percentage of the foreign born employes take advantage of athletic recreation privileges?" Up until the last few years, the percentage has been very small. Since our intensive campaign to stimulate athletic recreation for the masses, and not for the few, we have had increased numbers of foreign born employes taking an active part in competitive athletics. We have found very little interest manifested by the foreigner in the major American college sports, such as basketball, track and field, baseball, tennis and Rugby football. The activities that have attracted this type of employe have been those of strength, such as weight lifting and throwing, tug of war, wrestling, quoits, and, in some instances, boxing. Our tug of war teams are made up of foreign born men. Quoits and horseshoe pitching has its foreign following, especially among the Hungarians, Poles and Slovak races. The Italians play an interesting game of what they call "spot ball," which is played by bowling wooden balls, similar to the American bowling ball. The Italian has also taken a great interest in boxing. In the gymnasium the foreigners have followed the wrestling games very closely and have developed some international champions. The younger foreign generation have fostered basketball, bowling, and track and field sports.

It is almost impossible for us to say of any game, "this is an American game," meaning played exclusively by Americans. Even the game of baseball, known as the great American game, has earned the name of international baseball. We have only to look at the score sheets from a baseball game and we can readily see that the names indicate that men of foreign parentage, if not of foreign birth, are taking part.

In conclusion, there is of course a distinct advantage in teaching the foreign born English, but we must not lose sight of the leisure hours for recreation. That "all work and no play makes Jack a dull boy" seems to be realized by both employes and employers, but it is a spirit which suggests play that is particularly gratifying and which indicates a splendid unity.

TRAINING OF WOMEN IN INDUSTRY

By MARGARET B. REISCH

Adapted from a Bulletin of the Women's Bureau

The greatest success of woman in industry lies in order of importance in these fields

1. Machine shops.
2. Wood-work factories.
3. Optical and instrument factories.
4. Sheet mill shops.

During the war the necessity of making munitions, and the manufacture of tools and machinery to be used during the war, called women into machine shops, and work rooms for the first time in history. This employment extended also to some extent to foundries and steel and rolling mills.

The employment of woman's service has extended beyond the war period in various lines of work. Calls for woman labor are based upon the experience gained by industrial establishments which employed women during the war, and through that experience it has been learned that the occupations in which woman is successful, are occupations for which she needs to be educated.

In many of her occupations during the war, little or no attempt was made to instruct woman in particular lines of work further than her immediate tasks. Consequently, the advancement lay in gaining speed and accuracy, and in the ability to do better and more difficult work. Many of the occupations offered little opportunity for learning anything but the task set before her, and these tasks were largely those which were learned in a short time.

What is being done to train these women and girls in these lines of endeavor?

A survey has been made of industrial training schools throughout the United States to obtain information which will answer this question. The Bureau of Education furnished lists of trade schools and some unpublished data, showing which of

these had women enrolled in 1918. These lists were checked against lists of vocational schools furnished by the State boards of education. Questionnaires were sent out to trade schools in which women were enrolled in 1918. The returns from these requests showed that women were receiving instruction in home economics, general art, and commercial subjects, but not in trades. Also that the industrial courses that had been taught during the war, were dropped in 1919.

This survey also showed that 104 schools reported enrollment of women in industrial training courses. Forty-eight were all-day schools, forty-four evening schools, and 12 part-time schools. The schools were being conducted in 20 states, and the number in the different states varied from 21 in Pennsylvania to 1 in Kentucky. New York reported 17. An encouraging feature of these reports showed 24 schools giving women instruction relating to iron and steel manufacture, 4 giving instruction in industrial chemistry, 2 giving instruction in industrial electricity, and 2 teaching branches of wood-working manufacture. Some of the schools giving courses in some branches of metal trade, were teaching women blacksmithing, automobile mechanics, repairing and mechanical drawing.

The demands of war made it necessary for manufacturers to spend time and money in training women, to a certain extent, to meet the unusual conditions. But with the ending of the war, the manufacturer discarded this responsibility, and it now falls to the training institutions to increase the availability of woman labor. This training must be developed in such a way as to fit women for industrial opportunities developed in peace time.

Considering machine shop work alone, we find that women can give as good service here as in clothing factories. Also, the ever increasing use of mechanical devices in the home, makes a knowledge of mechanics as necessary to the woman as a knowledge of domestic arts. Therefore, the public would be wise to offer training courses in these new occupations.

In the metal working industries, women have done not only the machine work, but also inspecting and assembling of parts in typewriter, shoe machinery, watch and clock, and hardware industries. A study of tool design, shop mathematics, blue-print reading, training in the grinding and care of tools, and an understand-

ing of the characteristics of different metals and chemicals, are essential. With training in these subjects, women may gain the knowledge and skill which will open machinist, foreman and teaching positions to them. Short courses in mathematics and mechanical drawing, the use of tools and welding outfits, would be great aids to women in automobile, airplane, and other sheet metal factories.

A knowledge of the uses and values of finishing oils and varnishes and fillers will place women in a position to do efficient work in furniture and wood-work factories.

The value of woman's war experiences can be preserved only by immediate development of training courses along the lines of her success during the war.

The purpose of vocational education is to "fit for useful employment" and it is essential to take into consideration, in the development of training activities, the capabilities of women as well as the needs of the community. The community and the employer should be aroused to the needs of trade training of women. The attitude of the skilled male worker toward the entrance of women into their trades; also the approval, among employers, of women working at the same tasks year in and year out; and the fact that women are too timid to risk a new job; these are barriers which tend to restrict women to less skilled and lower paid positions. Consequently, her capabilities are undeveloped. Campaigns should be conducted, which are well organized, and properly suited to the community and the industrial conditions in the community.

The only road for women to skilled workmanship in her new fields of opportunity, lies in the path of proper training. Otherwise industry will be robbed of the valuable skill, and mechanical abilities woman gained during the war, and this lack of training will tend to deprive women of their right to every opportunity for service.

Figures on numbers of women and men employed in August, 1919, were obtained from 215 metal manufacturers in nine different states. The total number of wage-earners in these companies was 251,547. In Ohio, 11% of 14,801 employes were women; in Michigan, 5% of 123,852 were women; in New York 8% of 23,689 were women; in Pennsylvania 7% of 10,513 were women;

in Illinois 5% of 27,513 were women; in Connecticut 20% of 18,615 were women. Wisconsin, Indiana and Rhode Island follow with 3%, 4% and 8% respectively, women wage earners.

There can be no doubt that the greatest need for training in machine shop and sheet metal work lies in Ohio, Michigan, New York, Pennsylvania, Illinois and Connecticut.

In the furniture and veneer industries, reports from 41 firms in 6 states show: In New York, 14% of the wage earners to be women; in Pennsylvania, 12%; in Wisconsin, 11%; in Illinois, 9%; in Michigan, 7%; in Tennessee, 2%. Therefore, the greatest opportunity for women in this industry lies in New York, Illinois, Wisconsin and Pennsylvania.

The optical goods industries are largely confined to Massachusetts and New York. Hence, the greatest opportunities lie in that territory.

It is not a hard matter to pick out the cities in these different states where industrial training is most essential. In Pennsylvania, Philadelphia and Pittsburgh lead in the number of women employed in these industries. In Illinois, Chicago is first in the number employed in machine shops, metal factories and furniture factories. In Connecticut, it is probable that Bridgeport, Hartford and New Haven shops will employ large numbers of women. In Massachusetts, Boston and Worcester are in the lead in metal industries.

The public vocational authorities think of training for women only in dressmaking and millinery courses, but these trades are not the big employers of woman labor. The courses of training that are already open to men along these lines of activities should open their doors to women, and assist in guiding them into courses which will serve to increase their efficiency in their new occupations.

WOMEN IN ELECTRICAL INDUSTRY

By EDITH HECK, Westinghouse Electric & Manufacturing Co.

The war called thousands of young men from industry. At the same time it demanded increased production. In order to meet the emergency women gladly began to perform many kinds of mechanical work such as the operation of machine tools. They did this work not primarily because they counted it the most ideal type of work for them to perform but because in this way they could best contribute their support.

Now that the need for extraordinary production has passed, women are gradually withdrawing from those types of employment which they consider the least desirable for them, and are going back, in most cases, to the lines of work which they followed before.

In the electrical industry women, in addition to office positions, have been mostly engaged in various occupations peculiar to the trade, such as winding and connecting coils, light assembling and preparing insulation.

Long time training courses have not been prepared for women, as they are in general not considered as permanent in industry as men, consequently it is not to the mutual advantages for women employes to engage in those occupations, which, for a long period in the beginning combine training with a low rate of wage and the prospect of considerable advancement with long service. It is likewise to the disadvantage of an employer to maintain extensive courses of training for employes who inevitably will withdraw within a period of a few years, just at the time when their accumulated training would be of value.

Office positions are open to stenographers, typists, and dictaphone operators; checking clerks, cost clerks, production clerks, time clerks and mail clerks; telephone and telegraph operators and calculating machine operators.

Conclusion

First—Women met the emergency of the war by taking up many lines of work in industry which were new to them.

Second—Since this need has disappeared the tendency has been for women to get back to the lines of work which they formerly performed.

Third—The intensive training courses have proven most satisfactory in training women for their work, rather than longer time instruction.

AMERICANIZATION, DOMESTIC SCIENCE, SHOP TRAINING

By W. G. MITCHELL, General Electric Co., West Lynn.

The following is a brief description of work which we are doing under the headings of Americanization, classes in domestic science and shop training:

Americanization for Foreign Women

The General Electric Company at Lynn is conducting an Americanization School for its illiterate and non-English speaking employes. We have separate classes for women. The classes meet for two one-hour periods each week at the close of work in the afternoon. Instruction is given in speaking, reading and writing English. Special lessons are devoted to civics and to the home interest. This school is carried on in cooperation with the Public School Department of the City of Lynn.

Classes in Domestic Science

In connection with our education work for girls after working hours, we have, since the early part of the winter, conducted the following classes:

Sewing and Dressmaking—Four classes, each class meeting one evening each week. Each class consists of 19 or 20 girls, and the session lasts three hours, beginning immediately after the close of the working day. Girls furnish their own material and have been taught to make shirt waists, skirts, etc.

Cooking—Four classes a week, each class consisting of 19 or 20 girls, meeting once a week. Sessions begin at the close of the working day and last about three hours. Before leaving the girls eat the meal they have cooked.

Millinery—Two classes, consisting of 19 or 20 girls each. Each class meets once a week, the session lasting three hours, commencing immediately after working hours. The girls furnish their own material, and trim their own hats.

Comptometer Work

One class of 19 or 20 girls meets two evenings a week, sessions lasting two hours, beginning immediately after the close of

the working day. Each girl is provided with a comptometer, used by the regular office force during the daytime, on which she is given an opportunity to practice all the necessary tabulations to fit her for this class of work.

Physical Culture

One class of 29 girls, one evening a week, in our girls' gymnasium. Session begins at 7.45 P.M., and lasts one hour and a half.

All of the above classes are under the direction of high grade teachers especially trained for the subjects taught by them. The girls are charged a tuition fee which, based on the length of sessions, amounts to about 10 cents per hour, and the class work is arranged in terms of 10 lessons or 10 weeks.

The girls have shown considerable interest in these classes and generally speaking have been very regular in their attendance. Many of the girls have expressed their appreciation of the opportunity offered them and feel that they have made very encouraging progress in their chosen study. A direct indication of their earnestness is shown by the fact that many of the girls, on the completion of one term, immediately enrolled for a second term; in fact, enough of them did this to warrant an advanced class one evening a week in dressmaking and cooking.

All female employees are eligible and both the offices and factory departments are well represented.

Training in the Shop

Obviously we can learn a thing quicker if we are directed to reason instead of allowed to experiment! Experimentation is sometimes interesting to the individual, but it is usually costly to both the company and the woman. An old theory was that that which was gained by experiment was better learned and longer retained. But the average persons go through the same experience and it is plain then that a great loss of time is effected if we allow everybody to do his own instructing by the costly method of experimentation. This method often discourages good material.

It is also an obvious fact that we learn quicker if we are directed by somebody who knows the whole job in all its details. In the past, this has usually sufficed, but we now also train this

person in effective and proper methods of instructing because it has been found that it is one thing to know how to do a job, and quite another thing to impart this knowledge. The woman, to be instructor, will analyze the job, including in each teaching job all that should be known about it.

When a woman is hired, she is placed with an instructor who is charged with the responsibility of training her. The job this woman is to learn has been previously analyzed and classified by the instructor. From this analysis is made up a list of teaching jobs which cover the whole production job for which this woman is hired to do. Then, according to the difficulty of learning the job, this list is graded from the easiest to learn to the most difficult.

For each teaching job in this list there are usually several jobs of the same type which will answer the same purpose. This allows an instructor considerable latitude in selecting each teaching job, each one following the previous lesson. The first teaching job requires little or no skill, few operations, no danger, etc., in fact, the very simplest job for a person to learn. The second teaching job is a review of the first, plus an addition of a new feature.. In this way, the whole production job is learned with the least effort placed upon both instructor and woman learning. A common error made is to teach the job in the order of its production layout; many jobs while difficult to do are comparatively easy to learn. This is where training aids an instructor to analyze.

This work, as any manipulative work should, requires the individual attention of the instructor. The instructor so arranges her jobs that she can take care of a maximum number of learners without losing the effectiveness of her instruction. The size of the groups depend upon the job to be learned and the ability of the instructor. By records of actual experiences, however, it is quite easy to determine the load that each instructor can carry for best results. The length of time it takes the girl to reach what is called production efficiency also depends upon the scope and complexity of the job to be learned. Records will show the average time it should take for girls to learn the work. The standard of efficiency set is the basic rate of piece work price for the job.

In addition to the teaching of the job, the instructor also sees

that the new girl is acquainted with all routine matters pertaining to the shop and her own personal comfort.

The results of this work have proven a quicker determination of the learners ability to do the job. It has reduced learning time to minimum, in some instances cutting down one-half to two-thirds of time of breaking in. This means, of course, a shorter time of try-out for learner and more production for the company. Because of this attention and care, the worker is better satisfied and more reasonable. This cuts down or eliminates altogether the possibility of misfits, because by her training the instructor can analyze the reasons for failure and recommend for transfer to a job more suited.

Excellent results have also been obtained by the instructor analyzing methods of workers already on the job, and who for some reason may not be producing up to the average of the group in which she works. This, while calling for considerable tact and skill, has both increased the earning capacity of the operator, but also gives the company the benefit of increased quantity of production or raised the quality of the work to such an extent as to reduce possible rejections.

TRAINING OF WOMEN EMPLOYEES

By WILL I. OHMER, *President.*

The Recording & Computing Machine Co., Dayton, Ohio

Our courses are composed of actual work in the school. We do not try to teach the trades, but specialize on the particular kind of work we require in our plant. In case we need lathe hands, we pick out the kind of work necessary on the particular machine, and give the employe lessons on that particular work, showing the operations, giving the time in which the operations should be made and showing particularly the necessity of accurate and good work. The same will apply to drills, presses, milling machines and the like. The women are paid for the time they are in training and they are all trained in the same methods and the same operations. When they go into the shop, they are not discouraged when working among others who have had the practice, but having the same systems, know that in a short time—when they have the practice—they will accomplish the same results as those who have been taught before them.

During the past three years, we have trained between 8,000 and 9,000 women in the mechanical training school with great success. We trust to their intelligence and honor, and in that way, gain their confidence, which brings the greatest improvement in our work. We have had so many interesting happenings during the past four or five years that it will be impossible to write them. We feel this training work to be indispensable to the success of any manufacturer.

DES MOINES HOSIERY MILLS, DES MOINES, IOWA

By HAZELLE S. MOORE, Director of Employment and Service Department.

A Schedule of the Activities of the Service Department in Hiring, Placing and Training Workers Preliminary Interview

- I. Informal discussion of applicant's personal and employment record—(see Supplement A for details) same to be recorded unobtrusively on blank unless applicant is immediately rejected. Eye test for transfer knitters, loopers and menders.
- II. Description of operation with statement of unattractive features, nature of instruction provided and time necessary to learn.
- III. Earnings: Time work, piece work, beginner's bonus, normal earnings when expert understated. Pay system: Holding back last week, date first pay will be drawn and for what period.
- IV. Hours: Emphasis on regularity of attendance. Armor plate premium.
- V. Dress.
- VI. Written O.K. of husband. Necessity that home work take place second to plant work.
- VII. Mention of service features. Instruct when and where to report.

First Day

- I. New employe received in service department, cloak room, toilet and washing facilities pointed out. Instructions as to how to reach department. Advance mention of foreman's and teacher's names.
- II. Formal introduction to and acceptance by foreman.

III. Supplementary interview on floor at 10 A.M. (as relief in morning's work).

- A. Instruction in using time card; three minute and one minute bells.
- B. Toilet and drinking fountains on floor pointed out.
- C. Cafeteria, including purchase of ticket.
- D. Rest room and library facilities.
- E. Gymnasium class.
- F. Glee club.
- G. Mutual Benefit Association.

IV. Interview in Service Department at 3 P. M.

- A. As follow-up to get beginner's first impressions.
- B. Re-statement of pay and premium plans.
- C. Importance of regularity of attendance. Notification of service department in case of unavoidable absence.
- D. First aid work.
- E. Beginner dismissed or sent back to department, according to degree of fatigue.

Second and Third Days

Informal follow-up interviews on floor.

Fifth Day

Final O. K. Interview.

- I. Progress made and possibilities for further progress, attitude of individual and its effect on progress.
- II. How to fit into an organization. Necessity for cooperation and team work. Willingness to give service. Importance of belief in policies of firm and in quality of article produced.
- III. Employees' representative committee of service; its purpose and scope of activities. Why it should be responsible for standards of working conditions and plant spirit in general.
- IV. Willingness of service department to make adjustments and furnish information on any subject of interest to employees.

Plan for Instructions in Transfer Knitting

First Day.

Purpose: To give bird's eye view of operation and help beginner absorb production atmosphere.

Purpose: To give detailed instructions and opportunity for trial. To be given at isolated machine, not in department proper.

Purpose: To provide for relief to break strain and monotony.

Second Day.

Purpose: To link up with work of previous day and prepare for next step in operation.

- I. Brief statement of general method of operation and its relation to completed product.
- II. Illustration of entire operation several times, successive steps and machine parts used being named.
- III. How to put rib on cylinder cup:
 - A. Examination of rib in detail.
 - B. Examination of cylinder cup in detail.
 - C. Explanation of this step in operation, teacher performing same several times.
 - D. Drill on how to hold rib.
- IV. Ravelling.
 - A. Statement as to why necessary.
 - B. How to start ravelling.
 - C. How to hold rib when ravelling.
 - D. Dropped stitches.

Rest period at 10 A.M. in charge of service department. At 3 P.M. student is sent by teacher to service department for interview and if it is thought advisable, is then dismissed for the day.

- I. Repeat I and II of previous day and continue practice until beginner is proficient enough to proceed.
- II. General illustration of operation of transferring rib from cup to machine with accompanying explanations.

Purpose: Detailed instructions and drill on second steps of operation given on isolated machine.

III. Transferring.

A. Explanation of points in cylinder cup and how latch needle fits in these.

B. How to place cup on machine.

C. How to transfer; importance of holding work right.

D. How to pick up stitches; emphasis on importance of care at this point.

E. Final movements preparatory to starting machine.

Rest period at 10 A.M. and 3 P.M. in charge of teacher. Home early if necessary.

NOTE.—Teacher will constantly emphasize quality production as opposed to mere quantity. If the beginner is accurate and has an intelligent understanding of what she is doing, speed will follow.

Third Day.

I. Drill on work of previous two days in department proper. Careful follow-up by teacher.

II. Rest periods to suit individual case.

Fourth Day.

I. Inspection and classification of work.

A. Green tag, red tag, white tag.

B. Cut-offs.

C. Importance of constant inspection.

II. Counting.

III. How to send in work.

Fifth Day.

Purpose: To see if beginner has been properly placed to give her comprehensive idea of entire process, and of how transfer knitting fits into it.

- I. Final follow-up interview in service department.
- II. Plant tour, on this day if possible or shortly thereafter.

Plan for Instructions in Looping

First Day.

Purpose: To give learner an intelligent idea of general nature of operation she is to learn.

- I. Brief statement of purpose of operation, its general nature, and its relation to whole process (show a stocking before and after looping).
- II. Illustration of entire operation several times, successive steps and machine parts being named.
- III. Examination of hose.
 - A. Outside and inside.
 - B. Knots.
 - C. Ridges and stitches between (each one a course).
- IV. First step in operation.
 - A. Finding starting point.
 - B. Line of stitches to follow (inside).
 - C. Two threads between each point. (At first teacher starts work, later pupil does. Teacher completes operation of looping.)

Purpose: Detailed instruction and opportunity for drill.

Purpose: To counteract tendency toward undue eye-strain and fatigue.

Relief periods at 10 A.M. and 3 P.M. Former on floor in charge of service department, latter in office where beginner is sent by teacher.

Second Day

Purpose: To review previous day's work and prepare for new work.

Purpose: Detailed instructions and drill work.

- I. Illustration of entire operation as on previous day.
- II. Continued practice in looping inside of hose.
- III. Looping the outside of hose (teacher turns corners, etc).
- IV. Ravelling.
 - A. How to pull and cut threads.
 - B. Examination of rows of stitches on points as check for correct looping.

Relief periods at 10 A.M. and 3 P. M., teacher sending beginner to library, service department or home as each case merits.

Third Day.

Purpose: Detailed instruction and drill.

- I. Continued practice in looping inside and outside of hose and ravelling.
- II. Turning.
 - A. At start.
 - B. At finish.
- III. Final steps.
 - A. Cutting looped hose apart.
 - B. Inspection.
 - C. The tag.
 - D. Tying in dozens.
 - E. Tying in bundles.

Relief periods as on second day.

Fourth Day.

- I. Continued drill as above.
- II. Relief periods as above.

Fifth Day.

Purpose: To see that beginner has been properly assigned and that she has some idea of entire process of making hosiery.

I. Final O.K. interview in service department.

II. Plant tour (if possible).

NOTE—Teacher will show beginner how to thread machine as occasion arises. She will carefully supervise beginner's work for two or three additional weeks.

ARTHUR H. CARVER (Swift & Company): Most of what I can contribute to this discussion is along the line of difficulties which we have found in Americanization work in common with the other packing companies. We do not feel that we have solved the question of Americanization work among our foreigners. We are confronted with a serious difficulty due to the fluctuating hours of employment in our industry dependent upon variation in receipts of livestock. It is impossible to be sure just when the men will be through work on any given day; it therefore complicates the question of attendance at any classes which we have attempted to hold, and has resulted in great irregularity.

Two fundamental facts seem to stand out in connection with this whole question. One is that the average foreman in industry is not naturally greatly interested in Americanization work. He must be sold and sold thoroughly, if we are to expect effective cooperation from him. Such cooperation is absolutely essential if steady attendance at the classes is to be obtained from the men. To me, therefore, the first important step to be undertaken is to establish the conviction in the minds of our foremen that Americanization work is worth while, not only because it makes the foreigner a better man but because it also makes him a better workman.

The second point to which I refer is that the illiterate foreigner, as we find him, has little desire to learn the English language or to inform himself regarding the duties and privileges of citizenship under the American government. Little success can be expected in this work unless we can in some way instil in the foreigner a real desire to become Americanized. Until this is done we cannot expect him to make much effort or to go to much inconvenience in attending classes. I am inclined to think that much can be done by working upon the man through his children who are in the public schools, his wife, and his priest or minister.

We are undecided whether it is better to attempt to do this work within our plant or whether better results can be obtained by lending our assistance to work done in the evening at community centers outside of the plant. There is a growing feeling among our people that the latter method may turn out to be the more effective.

During the past year over five hundred of our foreigners have

taken out their first papers, and we now have before us the task of preparing for examination more than three hundred who have filed application for second papers. We do not expect it to be so difficult to keep up the interest and attendance among those last mentioned, because they have a definite end toward which to work.

As stated at the beginning I have little to add to this discussion except to state our problems. Doubtless many of you have met these same difficulties. If so, we shall welcome any suggestions which you can give us.

The meeting then adjourned.

THE PLACE OF A PERSONNEL DEPARTMENT IN A BUSINESS ORGANIZATION

THURSDAY EVENING—JUNE 9, 1921

MANAGING DIRECTOR HENDERSCHOTT, Presiding

MANAGING DIRECTOR HENDERSCHOTT: This year it seems fitting to have evening addresses. Ex-President Park was Chairman of the Program Committee, and while we have a great many subjects on the regular program, twenty different reports to be considered, there are some personnel problems on which we have no sub-committee reports and these matters have been presented at our evening sessions.

Mr. Casler, assistant to the vice-president of the New York Telephone Company, a man who has made a study of a subject in which we are all interested, will address us on "The Place of a Personnel Department in a Business Organization."

MR. H. W. CASLER (New York Telephone Company): I feel that I owe you an apology, because I will refer to my notes constantly. I am going to refer to them for fear I may be misquoted or misunderstood. When ex-President Park called on me to talk here on the subject, "The Place of a Personnel Department in a Business Organization" I was rather inclined not to accept, but on second thought it seemed to me that possibly I might have an idea or two I could throw into this Convention and that you could take away with you. After having heard Mr. Grier last night, I feel that my address is an anti-climax, but I hope you will take it in the spirit in which I give it to you.

The ideas that I may suggest or develop here tonight are not new or original. They are thoughts expressed by many individuals which to my mind point the way to a better relationship between the various elements of industry, all welded together and placed before you for the purpose of helping to advance this work in which we are all so much interested. I am indebted to numerous authorities and personnel workers for most of what I know about personnel work, and my gratitude, as should the gratitude of all industry, goes out to those men and women who are devoting their lives to studying the interests of humanity and who so freely and generously place the results of their efforts at the disposal of the industrial world.

In approaching this subject "The Place of a Personnel Department in a Business Organization" a logical and reasonable start would be made by determining as far as possible just what personnel work is. Tead and Metcalf define Personnel Administration as "the direction and coordination of the human relations of any organization with a view to getting the maximum necessary production with a minimum of effort and friction and with proper regard for the well being of the workers." This it seems to me gives us in condensed form a pretty good idea of what we are here to consider.

Another way of describing it was recently given by H. B. Thayer, President of the American Telephone and Telegraph Company, who in an informal discussion of this subject said personnel work is to an industrial concern what lubricant is to machinery. It envelops the mechanism, cutting down friction and enabling it to perform its allotted task quietly and efficiently. Without it, progress is seriously retarded.

Need—Attention to human beings as well as material and machinery.

Dr. Ernest Martin Hopkins, President of Dartmouth University, and a keen student of this subject, made the statement a short time ago that we are entering into a period when intelligent, scientific management cannot be imagined which does not recognize that the source and very essence of the whole proposition in regard to the development of industry here in the United States resides in the incentive which can be afforded to the individual worker, and the interest which can be aroused in production.

We have been some years in coming to recognize the importance of the individual in industry and in appreciating that the human side should take precedence over the mechanical in the consideration of all industrial problems.

It has been said that when Governor Hughes examined the contracts for the barge canal across New York State he discovered that the manner in which the mules and horses employed in that enterprise were to be housed and fed was very carefully specified but that the treatment of the men on the job in these respects was not mentioned. This typifies fairly accurately the attitude of a great many industrial concerns in the conduct of their business up until the past few years. The practice has been

to study the mechanical side of the job and ignore the human element.

The relative importance of the human side of the business from a dollars and cents point of view may be appreciated when we stop to realize that nearly twice as much is spent by our railroads for labor as for material. As our transportation system is one of the country's greatest purchasers of equipment and material—if not the greatest—railroads are cited as indicative of the comparative expenditures for the two largest items of expense to every industry. Most other businesses spend a higher percentage for labor. In the Bell Telephone System, with which I am associated, 49.7 cents of every dollar of revenue are expended in wages whereas 16.9 cents are paid out for materials.

The pertinent question is—are we devoting as much time and effort to the selection and use of labor as we are to procuring, applying and maintaining material and equipment? Modern progressive management has surrounded itself with every scientific and practical device for the procurement of the necessary material and equipment at a reasonable cost, the most advantageous use of that material and equipment and the proper maintenance of it. Purchasing and inspection departments have been developed, engineering forces have been organized, laboratories established—all in order that the inanimate element of industry might be brought to the very highest point of development. Production experts have concerned themselves almost exclusively with this phase of the business.

The story is told of the driver of a coal cart who was heard to observe reminiscently—

"Me and the old hoss has been working for this same concern for ten years now."

"And the company appreciates the worth of each of you, I suppose," said a bystander.

"Well, I don't know about each. Last week we was both sick and laid up; they got a doctor for the hoss and docked my pay."

Whether this actually happened I am unable to say, but it is a fact that the human element in industry has been quite generally neglected in so far as it has been possible to neglect it and still continue to do business.

Would the average manager buy material and equipment on

the same basis as he secures labor? Does the average manager take the same care to insure the longest and best service from labor as he does from material and equipment? I think I can safely answer these questions—"No, he would not and he does not." Many concerns are paying men to maintain and prolong the serviceability of the equipment of their plant but give little or no thought to surrounding these same men with the things which will increase their efficiency and serviceability. There are exceptions, of course—there have always been exceptions,—and I am glad to note that the exceptions are steadily increasing.

The object of all real personnel work is the 100 per cent operation of the Square Deal policy. Some people, not because of their following of other policies but in spite of it, have achieved what they believe to be success, but what has been gained by them has been at the expense of human beings, which is certainly nothing to be proud of. These people are hard to convince that there is need for careful and conscientious consideration of the rights of the individual in industry. They take all and give little. To such people I should like to say that there are several reasons for giving as much, if not a great deal more, attention to human beings as to material and machinery.

First of all management has a responsibility to the individual for the sake of the individual, that cannot be ignored if management is to be really successful. The individual is a human being who lives, moves and has his being fundamentally the same as every other human being, management included. For one reason or another he may not be as fortunately situated or equipped to meet the responsibilities of life as his fellows, but he is first, last and all of the time a human being. Every normal person has within him a desire to improve his condition. This ambition is very often a latent one. Nevertheless, it is there and needs but to be encouraged to bring out the best there is in the individual. It is management's responsibility to give that encouragement and to help men to help themselves.

Life at best is full of difficulties and problems, and if management can smooth the path a little and make the way of workers a bit more pleasant, I contend that it is management's duty, if not its privilege, to put forth every reasonable effort to that end. Management which does not or is not willing to accept this

responsibility of service to the human beings coming within its jurisdiction is not worthy of the name.

Then there is the return to industry which comes from effective personnel effort. It is impossible to evaluate it or to definitely estimate what it means in dollars and cents. It is intangible, but at the same time it is real.

It has been truly stated that the final test of a labor policy is its success in bringing about a higher individual development in the workers and more general contentment in industry. If we are operating along proper lines we are bound to develop the individual, increasing his capacity and his interest in the job and consequently his productivity. This being the result in the individual we have only to resort to simple arithmetic to get the sum total of return to the industry as a whole.

In these days of keen competition it is necessary to keep every element of business, human as well as mechanical, functioning to full capacity if we are successfully to meet the other fellow. Production is a finely adjusted balance depending upon relatively small things, which in the aggregate are apt to turn the scale. Other things being equal, the spirit of employees will favorably affect the complexion of the balance sheet.

If there be any skepticism on this point let me ask what management representative here would deliberately set about wrecking the morale of the workers in his organization and expect to have the balance sheet continue to show a satisfactory return? If we agree that disturbing influences are detrimental to the best interests of the industry in which they exist, we should all be in accord on the positive side of the case. Any plan which tends to develop the individual and make him more contented on the job and which supplants ignorance, misunderstanding, hate and distrust with knowledge, understanding, confidence, cooperation and loyalty, thereby knits the personnel of an organization into a compact, united, happy family of workers. Accomplishing this has the double effect of increasing the efficiency and productivity of the individual worker and of retaining that individual's services in the business or industry where they count the most for himself, his employer and the public.

The waste from the constant, and in a large measure preventable shifting of workers from one concern to another is appalling, and constitutes a problem, the necessity for the solu-

tion of which is impressing itself more forcibly upon employers every day. It is a leakage running into thousands of dollars with concerns of any considerable size, and with losses proportionally as great in smaller businesses. Putting our industrial house in order so that our family of workers will be glad to stay with us is not only a desirable thing to do but an economic necessity.

Briefly, there is another reason for personnel work. If pursued along intelligent and proper lines it touches more than the individual and more than the industry. Its influence spreads and involves society and its effect is to raise the standards of living and generally improve the condition of mankind. Seeing that men get the chance to develop, broaden out, and help themselves is merely insuring to them the opportunity which God intended should be theirs. Better workers will make better citizens, and in times such as we have been and are now passing through with the structure of civilization fairly shaking about us, there is urgent need for better citizens.

After all is said and done we are here not for our own selfish ends but for service to humanity. We should keep our responsibility to society constantly in mind and square our personnel program with that obligation.

The idea in back of personnel work is not new. It is not a product of modern times. It dates back to Biblical days and is admirably epitomized in the words of the Golden Rule,—“Do unto others as you would they should do unto you.” It is the application of this idea and spirit to present day conditions which is new, and which gives us the problem that industry is now so much concerned with.

In the small size plants of former years the personal contact between owner and management and between management and worker was ever present. Very frequently the owner was the manager and a worker as well. The employer and employe worked shoulder to shoulder, the former understanding his responsibility toward his employes, the latter knowing considerable about the economic conditions imposed upon the employer. Of course employers and employes had their disagreements, but the intimacy between the two served to keep these to a minimum and when they did occur it enabled the one to go directly to the other and thresh out their differences. In the small industrial

unit the close association of the employer with his employees left little chance for misunderstanding, that insidious factor which causes so much dissension between employers and employees, and which will continue to be responsible for industrial disturbances and inefficiency so long as it is allowed to exist.

The employer of those days was just as much concerned with creating a spirit of morale and instilling loyalty in the mind of his employees as are our great industries of this day, but through his close association with his workers he was able to direct his efforts along different lines than are now being used by big business. The employer of the small group was in a position to keep his finger on the pulse of the situation and from his intimate knowledge of the patient, prescribe and administer any remedies which were necessary to avert trouble. He could deal with his people on an individual, personal basis and in this way maintain a very close relationship with them.

With the growth of capital into larger units there has grown an ever widening gulf between the employer and the employees. Organizations have become so large and the ramifications of the work so great that operating heads can keep in touch with the workers only through subheads. Very often this leaves much to be desired for some of these subordinates are apt to be of non-conductive material and instead of operating as a point of contact between management and workers, they act as insulators, preventing the transmission of intelligence from one to the other.

With the larger units of industry there also came the growth of specialization and intensive repetitive industrial processes which resulted in a loss of creative interest on the part of the worker and a true perspective of industry as a whole. In many instances individuality was sacrificed on the altar of high production.

It is quite impossible to restore the direct personal contact of former days and there must be found and developed a way of, as our Secretary of Commerce, Herbert Hoover, puts it "re-awakening interest in creation, in craftsmanship and contribution of labor's intelligence to management. We must enlist the interest and confidence of the employees in the business and in business processes."

To quote Mr. Hoover again—"A definite and continuous organized relationship must be created between the employer and

the employee; by the organization of this relationship, conflict in industry can be greatly mitigated, misunderstanding can be eliminated, and that spirit of cooperation can be established that will advance the conditions of labor and secure increased productivity."

It is toward the accomplishment of this purpose that specialized personnel effort is being directed. The necessity for studying this problem and working out a solution of it has forced itself upon the minds of the leaders in industry with the consequence that the human element in industry has been receiving considerable attention during recent years.

The conditions attendant to and resulting from the prosecution of the World War greatly accelerated the movement for a better relationship between employer and employee. Those conditions focused the attention of industry in particular and the public in general upon the labor situation and crystallized the thoughts and feelings of workers into definite form.

The outcome was the intensive development of various forms of personnel activity designed to bring employer and employees closer together.

Some concerns, feeling the pressure of the situation, adopted schemes to tide them over until better times might come. With them it was an expediency, a remedy to meet a temporary condition.

When the cloudburst came they reared up personnel departments and what not, very much as they would raise an umbrella as a protection in time of storm. With an abating of the rain they have discarded what they have considered merely a help in a troublesome period. They have failed to realize that properly directed efforts along these lines are of permanent operating value. They have taken advantage of a temporary economic condition.

Fortunately there are others to whom the lessons of the war have not been lost, and they are joining hands with the fellows who have had this matter on their hearts and in their mind for some time back. For these there is to be no turning back nor slackening.

This class realizes that personnel work is a permanent constructive force in industry and is not to be raised and lowered with the prevailing winds.

They recognize that it is a day in and day out, year in and year out proposition—a job that will never be finished, but one in which consistent intelligent effort will yield much in satisfaction and dividends for all parties concerned.

And they are building not alone for the present but for the future and are proceeding with a confidence born of the knowledge that their foundations are erected on solid rock.

Let us endeavor to determine just what the employer and the employe desire and if possible ascertain what in general can be done to secure these things to each other.

The employer desires—Industrial peace, Improvement in the quality and quantity of work done, Reduction in costs through improved methods, Higher efficiency on the part of the employes, Attentiveness and interest of the workers in their work—and—Loyalty and confidence on the part of the workers.

The employe desires—Reasonable pay, Steady work, Good working conditions, Better personal relations with his bosses, A square deal—and—A chance to better his position.

Having enumerated what these groups want, always keeping in mind the public to whom both groups have a responsibility, I should like to consider briefly some of the outstanding phases of personnel work which should insure the attainment of these wants.

Maintaining a working force at the required numerical strength involves the development of sources of labor supply and ability to obtain efficiency from this force depends to a large degree upon the securing of the best material with which to work, for we cannot expect one hundred per cent efficiency from a fifty per cent man. Our first concern then should be in getting enough of the right kind of people into our organization.

First impressions are very often the strongest and most lasting and we should therefore see that the new employe is given the proper attitude toward his employer from the very start. He should be made to feel that he has associated himself with a whole-souled, worth while concern, one which has a real interest in him and one which will afford him every reasonable opportunity for the advancement he seeks. Any routines which are necessary for the employment operation should be used as opportunities for establishing a close relationship with the employe.

Whether or not in this instance "well begun is half done," it certainly is a long step in the right direction.

The efficiency of the human element having been safeguarded by a proper selection and reception of the material, the next step is to so distribute this material as to secure the greatest possible efficiency from the plant as a whole. Getting the new employee into that part of the organization where he is most needed and where he will best qualify ultimately if not at present, calls for the exercise of fine judgment, and is not a matter that can be decided in an offhand way.

Closely identified with engagements are separations. If of a voluntary nature, separations should be so handled as to enable a determination of the underlying cause and the application of corrective measures where necessary. If separations are involuntary on the part of employees they should be accomplished in such a manner as to retain the goodwill of the worker affected and leave no rancor within him.

Health and safety are two important phases of personnel work and there will be no argument in an enlightened audience such as this, over the declaration that industry should put forth every effort to safeguard the health and safety of its workers. Management owes this to the employees and to the employers. Consideration should be given to such matters as proper light, heat, ventilation, drinking waters, sanitary conveniences, rest periods, lunches, recreational activities, vacations and other health giving agencies and machinery should be so equipped with safety devices as to reduce the hazard of operation to a minimum.

To a certain degree medical and surgical treatment should be made available to employees, especially that of an emergent character and such diagnostic or other facilities that will reduce absence because of illness. If I may enlarge on this point I should like to tell you how in our Company we lay stress on preventive medical work, the accent being on medical as against surgical. As you know, the thing which attracts attention is the "Safety First" placard, but the thing of which we ought to be reminded is the fact that the accidents occurring in the course of a year do not result in one-tenth as much disability and time lost as do the so-called preventable medical cases. In our organization, and it is true in practically all others, about one-third of the total absence is due to the minor respiratory illnesses such as colds,

laryngitis and tonsilitis. In the course of a week we have more time lost from these causes than we have in the course of six months from accidents. It is important from our standpoint to save employes' suffering, and prevent possibly a serious condition, and also to save money not only for ourselves but for society in general by reason of cutting down total absences and duration of absences in the individual cases,—in other words, to do something along preventive medical lines,—and that is where we are laying our chief emphasis.

In the community in general, much attention is directed to and excitement caused by a surgical operation; the operation for appendicitis, one would think, was the most serious thing in the world. As a matter of fact, if all cases of appendicitis in the United States were put together and were neglected and permitted to die, or if nobody knew anything about it, they would probably cover less than one-tenth of one per cent of what the total sickness and death-rate reduction has been in the last twenty years by the reason of the elimination of typhoid.

In connection with this kind of work which we have been doing, our treatment of tuberculosis is a good example of what can be accomplished. During the year 1919, we made a great effort to search out each case. We found in our personnel fourteen less cases than we found in 1918. In 1920 we found some twenty-five cases less than in 1919, notwithstanding a 27 per cent increase in force. You all know that after the influenza epidemic there was a sharp general reduction in the death rate from tuberculosis in all communities. Nevertheless, our figures go much beyond that. Our cases have gone much below the case experience of the communities in which we operate. We had a 25 per cent reduction in that one year, where we had had over 15 per cent reduction the previous year. We feel that this is a definite demonstration of what you can do if you go out and search for your cases and try to apply preventive principles and preventive work to them rather than to wait until the people are sick and treat them then.

The reason that we do not have the number of tuberculosis cases at the present time that we had two years ago, is that we go into our exchanges and into our offices and select people who do not feel as well as they should, perhaps look a little bit pale; who are beginning to be absent a little more than the average

number of days of absence; who are complaining of being tired; and who, when we make our annual re-examinations we find have lost some weight during the year. We go after these cases intensively and make an effort to find out definitely what is the matter with them, and to do something about it then—not wait until they become clear, outspoken cases of tuberculosis, and then send them to the sanatorium for six months or a year.

We are now sending these cases largely to our rest home at Warwick, N. Y. True cases of tuberculosis are sent to sanatoria. We get these people out there for from one to three months, and our experience has been most gratifying. We have at present back on the job working for us, approximately 150 girls who have had this experience and have been back and have kept well for over one year. We have many others who have also been through this course and have returned to work, but have not been back a year yet.

Housing is another matter which has a direct bearing on efficiency and safety, for workers who are not properly housed and do not get a sufficient amount of rest cannot do justice to their job and are a menace from the standpoint of safety. Furthermore, they are excellent raw material for agitators. Whatever assistance it is possible for industry to render workers to provide suitable living quarters for themselves and their families should be given. A comfortable and happy home life means much to the contentment of the worker in his industrial life and to the welfare of the coming generation.

A great deal can be done to advance the cause of health and safety through educational campaigns which include the use of company magazines, bulletins, informal talks, First Aid training courses and competitions for Accident Prevention honors. In addition to their educational value, equipping men to not only help themselves and their fellow workers in case of accident or illness but to be of service to others outside of the business in times of emergency, these things very often bring the workers together in a personal way for the accomplishment of a purpose of mutual benefit, and they are excellent builders of morale.

Intelligent health and safety work not only save industry the payment of considerable amounts for time not worked and other compensation but tend to insure the greatest quantity and quality of output per man.

If there is one feature of personnel work that stands out above others, that feature is education and training. To my mind there is no more important personnel work than giving the workers information about their job and their company and their relation to business as a whole.

Even the concerns that are the most progressive along personnel lines have failed, I am afraid, to realize the urgent necessity for properly training their people or taking them into their confidence and telling them all about the business.

If a concern has a bond issue under way its financial agents go to considerable lengths to get to the investing public the facts regarding the history of the concern, the manner in which its affairs have been and are being conducted, its financial status and its prospects. Are not the workers who are intimately affiliated with the business—actually a part of it—entitled to the same information or perhaps more information of this kind than the prospective investor? Isn't it also a fact that if they knew something of the plans, purposes and ideals of the company their interest in their job and in their company would be greater. I tell you, fellow members, we are missing a big opportunity if we are neglecting to tell the workers what it's all about and to make them feel that they are members of the industrial family and not its servants. Management must undertake the supervised training of employees if a most effective use of the ability of workers is to be obtained. Proper guidance, instruction and training will aid in developing the average person into a useful and creative unit.

There is so much to be said on the matter of education that I cannot begin to make even a surface impression in the limited time at my disposal.

Education in industry as I see it, divides itself naturally into two kinds—technical, having to do with specific work, and general, pertaining to the business generally and its relation to industry as a whole.

Technical education or specialized training must necessarily be based on requirements peculiar to the work involved. It will, perhaps, suffice to say that any program for technical training should be so worked out as to enable and encourage the workers constantly to increase their knowledge and improve their condition.

General educational work, while varying in details in different industries, should broadly and fundamentally involve the same scope and methods in all industries.

First of all new people coming into an organization should be made acquainted with what that organization is, what it does, and how it does it. Something of the history, traditions, ideals and policies of the concern should be given them and there should be explained to them the relationship of the company to the industry of which it is a part and to the business world in general. Such information as this serves to impress the new employes with the fact that they have become associated with a concern that is rendering a real service to society, that it is doing its job in a business-like manner and that the support and cooperation of every worker in the plant is necessary if standards are to be maintained or improved. In getting these ideas to the workers it will be found very helpful to have them make a tour of inspection of the plant under competent leaders, for this will enable them more readily to visualize the problems of the business and will instil them with confidence in the management.

Old as well as new employes should be told more about their work and how it is related to the work of their fellow employes, what their department is doing, how and why, and similar information for the entire plant. They should know the basic principles of good business and enough of economics to permit them to get the correct viewpoint on matters which affect them. They should be shown how their company is operating its business along safe and sound lines and how it is endeavoring to serve the public in the very best possible manner. They should be impressed with the fact that they are part of the Company and with the need for their cooperation and help in doing the job and in demonstrating to the public that they are with their company heart and soul because they believe in it.

The result of such education in so far as the workers are concerned will be an improved attitude toward and enthusiasm for what they are doing. This will be reflected in their productivity and in the cost of doing the job.

To quote Dr. Hopkins once again, we have simply these two options; "if industry must be maintained on the present basis, then we must plan constantly to be met with the recurrent demand that hours be shortened and that pay be increased. Or, we have

the opportunity, on the other hand, to inject back into industry something of the opportunity for self expression, the development of one's personality, so that man shall understand his responsibility in the economic world and shall have some joy in meeting it."

Through education men can be shown that they are contributing a very essential service to the business and to the public and that they are getting a fair share out of the product of their work. If this is done much of the present discontent in industry will be eliminated.

In mapping out any educational program it is well to keep in mind that each worker is a representative of the company which employs him. Coming in contact with his associates and with the public generally he can be a missionary carrying the company's message and placing before them the true facts, provided he is equipped with the facts by his employer. The value of this means of reaching the public may be greater to the public utility than the private concern, but it has far reaching possibilities for both.

Another subject which should be included in the educational campaign is thrift. It may be argued that industry is injecting itself too far into the personal affairs of the individual when it attempts to teach thrift. This might be true if an attempt was made to tell him how he should spend his money. Giving him the theory of thrift, however, is another thing and if properly handled will be cordially received. The practice of thrift develops character and character is needed in our business and in our national life today as never before.

There are other phases of personnel work that tend to secure to the employer and the employe those things which each desire. However, time forbids more than mere mention of them. Research work, job analyses, rewards in the form of pay, promotion and transfers, sickness, accident and death benefits, incentives and joint relations are some of these.

I would like to go on record as strongly in favor of some means by which workers may express themselves, other than through regular organization channels. There should be adequate machinery both for securing united action in the pursuit of common ends and for the equitable adjustment of points which involve competing interests.

There should be some means by which employes and management may make known to each other their problems and perplexities and secure from each other the benefit of counsel and advice. There should be an open door to the full, frank and honest discussion of grievances, real or fancied, for only in this way can they be eliminated. With these out of the way, the plan, whatever form it may be in, may be used as a constructive agency, through the exchange of ideas by management and the men on the job. Management has no monopoly of brains in industry and without sacrificing its right to decision can well afford to accept the practical counsel of the workers.

About two years ago a Plan of Employee Representation was adopted in our Company and its practical application to the problems of our business is summed up in a recent statement made by one of our Plant Superintendents who had this to say about its operation in his Division. "We started out with a firm conviction that any group of men that gathered around a table for discussion, with all the facts before them could agree on any subject, no matter what it was. The results demonstrated that our theory was right. We also started out with the determination that in these joint meetings, all subjects would be treated in an absolutely fair, impartial way, and if we were to deviate at all, it was going to be, if anything, in favor of the employes. We realize that we had to get the confidence of our representatives if we were to make the plan a success. Our plan of representation started during the strenuous war period, when the cost of living was soaring by leaps and bounds and when the relation between employer and employe were strained perhaps as they never had been before, and naturally there was a great deal of suspicion at first. One question at the first meeting we held was: 'Does the Company expect to benefit by this plan?' It was a very good thing for the management that this question was asked. The answer was: 'Yes, we do; we expect to profit by it, but we expect the employe to profit fully as much as the management, and in fact, the management can only profit through the profit of the employes.'

"Following along the line of progress of the plan, the first matters brought up were what you might call grievances, the employe representatives really becoming Grievance Committees. But our theory and practice worked admirably; with all the facts

known, with these men round the table, trouble faded away almost as snow would on a July day. The meetings were conducted in an orderly way. All subjects were logically analyzed step by step, and no subject closed until all representatives, both Employe and Management, were in agreement. If this could not be done in one meeting, the subject was carried over to a subsequent meeting. In a very short time the spirit of suspicion was entirely replaced by one of confidence, and instead of being solely grievance committees, the representatives began to introduce constructive matters, began to suggest things which from their experience they believed would prove beneficial to the Company. They began to think about ways and means to get the knowledge and information that they were gaining in the meetings out to the force. The employe representatives have expressed to the management their extreme gratification in what they have learned about the Company, its policies and its ideals, and over their success in getting much of the information out to the rest of the force."

Having considered the need, history and phases of personnel work, we now come to the question "How should this work be carried out? Should these various activities be centralized in a functional personnel department or should the responsibility for personnel work be placed definitely upon the departmental organization as set up?"

Most assuredly there are advantages in the centralizing of some of these activities in a personnel department under certain conditions. The engineering of the job must be concentrated at one point and in some instances, particularly where the workers are "under one roof," it is perhaps desirable to have some phases of the personnel work promoted by a department specially designed for that purpose.

Under these conditions, employment work, for example, can probably be carried on to better advantage by a personnel department than by having this feature of the job handled by the several departments.

Health and safety, especially the former, also lend themselves to the centralized plan in an organization where there is a concentration of workers in a single plant.

Undoubtedly certain educational activities such as continuation work, Americanization and possibly some intensive technical

training can be carried on to better advantage under the auspices of the functional personnel department.

Personnel research work, job analyses, incentives are other matters which can probably be best studied and problems concerning them solved through the centralized arrangement.

There are, however, difficulties and dangers in connection with the centralized department plan. With a plant and the workers scattered over a wide area, as is very often the situation confronting public utilities and other industries, the centralized plan is almost out of the question. Even where the physical layout of the concern permits there is no gainsaying that the promotion of some phases of personnel work by a centralized organization results in a loss of contact between the supervisor and his men, and in this way placing an unnatural barrier between them. One of the objects of all this work is to bring management and workers closer together and unless very carefully handled the lines of organization are apt to be weakened by segregation of this work as a separate function and a consequent division of responsibility.

I am very strong in my belief that as much personnel work as it is possible for it to absorb should be handled by the organization as constituted along departmental lines. The logical place for this responsibility to rest is at the point of contact between management and workers. "Every supervisor a personnel man" is, it seems to me, the key to the situation.

It is true that foremen or other first line supervisors are very often employed for their technical knowledge and for their ability to get out the work. I realize that there is a type of foreman who feels it necessary to resort to a reign of terror in order to turn out the work and I appreciate that the foreman may have innumerable other shortcomings. Foremen are not perfect but they are not always as black as they are painted. From time immemorial they have been called upon to accept the blame for almost everything that has gone wrong. They have gotten it from the management and they have gotten it from the men.

Some of this blame has been rightly theirs; much of it has not. There are good foremen and poor foremen, just as there are good personnel managers and poor personnel managers.

The foreman is entitled to a square deal and in his behalf I would like to suggest that we look beyond the foreman in an

effort to determine what has been done to help him and equip him to meet his exacting responsibilities. Such a survey will probably show that he has been left to work out his own salvation. If it does, let's wipe out the charges against him and start out anew with a clean slate.

Let us be reasonably sure that our foremen possess the qualifications for the important position they must occupy. They must, in addition to directing the technical side of the job, lead their men by force of character and their power to inspire respect. They must be able to administer discipline in such a way as to bring the worker closer to himself and his Company. Above all he must be the embodiment of the principle of the square deal as interpreted by the management at the top. There are almost as many ideas of what a square deal is as there are foremen, and many of these ideas are apt to be at variance with the feelings and wishes of the general and operating officials. Care should be taken to give the foreman the proper conception of the square deal.

To the workers, he is the Company and he must so interpret the policies of the employer to the employees that there will be no misunderstanding of those policies.

Being in daily association with the workers he becomes the standard by which the conduct and intentions of the Company are measured. Consequently the foreman should be the first point of attack in any campaign of an educational nature.

Carry your message to the foreman through lines of organization, talk it over with him, let him study it, discuss it and thoroughly absorb it, and then have him pass it on to the workers reporting to him in his own way and in language that he knows they will understand. This will increase his confidence in himself, in the management and in the workers. It will broaden him, develop him and point him toward a better, bigger job. What is more, it will increase the respect which the workers have for him, and generally strengthen the supervisory staff and improve discipline.

The foreman is on the job every minute of the day, and through this close contact he can, if properly equipped, apply the principles of personnel work to the practical problems of the job as they arise.

Personnel work is not a job in itself, a thing separate and

apart from management or a dose of cure-all to be taken two hours after. It is a method of managing and it is so interwoven with management that it cannot be detached and treated as an independent function. When we reach the point where our operating officials and supervisory force accept this idea and determine that every supervisor shall be a personnel man, we may consider that we have made real progress.

The personnel activities of an organization should be directed and coordinated by an official close to the top. There is no more important phase of any business organization than personnel work and its promotion should have the personal interest and consideration of the President or one of his immediate assistants. Any less authority is detrimental to the advancement of this work.

The official who holds this responsibility is really a human engineer and as such should study the personnel problems of the business and in collaboration with operating officials work out the solution of those problems. He should constitute himself as a clearing agency for ideas and suggestions along these lines and generally place his services at the disposal of the operating departments.

There are several prime necessities to be observed in carrying on personnel work if we are to achieve satisfactory results.

First of all we must be sure our company is honest in every respect or promptly make it so as the prerequisite to personnel work. Business organizations, just as individuals, are not perfect, but if their motives are right, actions will be judged accordingly. When we know a man is striving to do the right thing we respect him even though he may occasionally fall a bit short of his objective. And so it is with a business organization. If it is 100 per cent honest in the conduct of its affairs it is in a favorable position to undertake personnel work. If it is not 100 per cent honest, personnel work will only serve to emphasize that fact.

Assuming that the business in which we are engaged is honest in the conduct of its affairs, and undertakes personnel work, there must be absolute sincerity in the promotion of this work. Every supervisory official from the president down must thoroughly believe in it and make it a part of his very being. Simply going

through the motions will not get us anywhere, unless it be further away from our destination.

Personnel work should have the unqualified support of the general officers of the organization and this support should be indicated to the entire force in no uncertain terms. Indifference on the part of general officers, even though apparent and not real, will leave the supervisory staff undecided in putting their ideas along this line to work. A complete understanding and warm sympathy toward this work on the part of the supervisory officials is essential. They must be sold on the proposition or it will fall flat.

With the support of the general officials and the cooperation of the supervisory officials we must next win the confidence of the employees. Merely proclaiming that a thing is so does not make it so, and as actions speak louder than words, we must be certain that everything we do, whether it concerns the owners of the business, the workers, the management, or the public, is done in such a way as to increase the confidence of the employees in our organization.

There is a formula in general use throughout the Bell System which I think will help any organization, and I include it among the necessities. It is known as the four "C's": Contact, Confidence, Conference, and Cooperation. This combination will open the door to wonderful accomplishment along personnel lines for contact begets confidence and once we have confidence and come together in conference, we are bound to get cooperation. In the words of the poet:

"It ain't the guns or armament,
Nor funds that they can pay,
But the close cooperation
That makes them win the day.

It ain't the individual
Nor the army as a whole,
But the everlasting teamwork
Of every blooming soul."

The last thought I want to leave with you is one to keep foremost in your mind. It is that the job will never be finished. We must never allow ourselves to believe that we have reached the point where no further personnel work is necessary, for that

time will never come. As I pointed out, it is a method of accomplishing our work, and if we are to succeed, we must determine to keep persistently and everlastingly at it as long as we stay in business.

(The meeting then adjourned.)

BUSINESS MEETING

FRIDAY MORNING—JUNE 10, 1921

MANAGING DIRECTOR HENDERSCHOTT, Presiding

THE CHAIRMAN: Gentlemen, the first business on the program is the report of the Committee on Resolutions, which will be presented by Mr. Pickernell, Chairman of the Committee.

Mr. Pickernell presented the following report:

MR. PRESIDENT AND DELEGATES: In reviewing the problems of the past year and the work accomplished at this Convention, your Committee on Resolutions believes that particular thanks should be extended to the retiring officers for their safe guidance of the Association through the very difficult period of reorganization. Any one who has undertaken any reorganization work will readily realize the stupendous task given to President Park in bringing together the divergent interests of this Association and welding them into one body for unified action.

We also believe that the other retiring officers and the Executive Committee should receive our thanks for the splendid cooperation they have shown in the work assigned them during the past year.

Particularly do we feel that a warm and hearty vote of thanks should be given our managing director, Mr. F. C. Henderschott, for his self-sacrificing devotion to the interests of the Association; for the successful and efficient management of our business; for the courteous and sympathetic attention to our various and many inquiries and complaints and for the prompt publication and distribution of our Bulletins, Reports and Proceedings.

Your Committee on Resolutions also thinks it fitting to extend warm appreciation to the chairmen of our sub-committees and to those who have worked under them to produce the finest set of reports which have yet been offered at any of our Conventions. We realize that on account of the uncertain business conditions prevailing during the past year, their tasks have been particularly difficult due to the fact that they themselves had to devote more time and effort to their own jobs and therefore had less time to give to other interests. We feel that this shows a real devotion and loyalty to the progress of the Association.

Realizing that more work has been accomplished this year through the increased activities of our Local Chapters, your Committee deems it proper to extend to the officers of our several Local Chapters a vote of thanks. Frequent meetings have been held during the past winter from which we have all derived great benefits.

The fact that the mechanism of the Convention itself has run so smoothly this year, has caused no little comment among the delegates. The clever plan of holding the sessions a mile from the hotel has not only given us the opportunity to properly settle our meals and thereby better prepare ourselves for the sessions, but has also given many of us the privilege of getting better acquainted and of holding additional discussions on the walks to and from the Convention Hall. We realize that this is entirely due to the efforts of Mr. E. R. Cole and the members of his committee. Everything possible has been effected to make our stay at Niagara Falls very happy and one that should long dwell in the memories of all. The generous hospitality, the plans for our entertainment, the care for our comfort, have all been particularly noticeable. To this committee we feel that we all owe our deepest thanks and gratitude.

We also desire to express our thanks to the Chamber of Commerce of Niagara Falls, N. Y., for the use of their fine auditorium and the provision of automobiles for the trip to be taken this afternoon. To the Y. W. C. A. of Niagara Falls, N. Y., we also owe a warm measure of appreciation for the use of their hall and restaurant service and for the unrestricted house privileges extended to the ladies of the Convention.

We recommend that the secretary be instructed to send both of these organizations a copy of this resolution.

We further desire to express our sincere thanks to Mr. John McMillen for his lecture on "Thrift;" to Mr. R. H. Rice for his presentation of "Employee Representation in Management;" and to H. W. Casler for his able discussion of "The Place of a Personnel Department in a Business Organization."

By his most eloquent oration at our annual banquet, Mr. A. Munro Grier, K. C., has inspired us both as an organization and as individuals with a larger vision of the work before us and with a firm resolve to more nearly merit the high esteem in which

he assures us we are now held by our fellow workers of the British Empire.

We also recommend that the secretary be instructed to send a copy of this resolution to each of the named gentlemen.

Your Committee also wishes to extend thanks to the Business and Professional Women's Club of Niagara Falls, N. Y., for their warm greeting and reception to our delegates; to the Niagara Falls Power Company of Niagara Falls, N. Y., for supplying the moving pictures, showing the power development at Niagara Falls; to the industries at Niagara Falls, N. Y., for opening their plants for the inspection of delegates and guests; and to the Harry Levey Service Corporation, the Bray Studios and Mr. J. F. Lewenthal, the American Rolling Mill Company, the National Cash Register Company, and the Nicholas Power Company of New York City, for supplying a machine, operator and motion picture expert, all of whom cooperated so admirably with our Committee on Visualized Training. Special mention should be made of the courteous treatment and comfort accorded the guests of the Clifton Hotel.

We therefore recommend that the secretary be instructed to send copies of this resolution to these organizations.

We feel that one of the greatest benefits that may be derived from our meetings is the study of our annual Proceedings when they are published, and to this end we desire to extend to our faithful friend and stenographer, Mr. T. E. Crossman, our sincere thanks and appreciation for his painstaking and accurate recording of the Proceedings of this Convention.

Respectfully submitted,

(Signed) A. F. PICKERNELL, *Chairman*
C. E. SHAW
ANNE DURHAM

Committee on Resolutions

THE CHAIRMAN: You have heard the report of the Committee on Resolutions. What is your pleasure?

MR. ARTHUR H. CARVER: I move that it be accepted.

(Motion duly seconded, put to vote and carried.)

THE CHAIRMAN: The next business on the program is the report of the Nominating Committee, which will be presented by Mr. John F. Kelly, Chairman of the Committee.

MR. JOHN F. KELLY: In selecting the names of the members

of the Executive Committee of the Executive Council for approval, the Nominating Committee has, so far as possible, covered all the industries and has tried to spread out the memberships in all parts of the country. I submit in the name of the Committee the following nominees:

For Vice-Chairman

MR. H. W. CASLER, New York Telephone Company, New York, N. Y.

For Secretary

MR. F. P. PITZER, The Equitable Life Assurance Society, New York, N. Y.

MR. SIDNEY W. ASHE, General Electric Company, Pittsfield, Mass.

MR. CARL S. COLER, Westinghouse Electric & Manufacturing Company, East Pittsburgh, Pa.

MR. J. H. YODER, The Pennsylvania Railroad System, Altoona, Pa.

MR. E. E. SHELDON, R. R. Donnelley & Sons Company, Chicago, Ill.

MR. GEORGE VANDERHOEF, Dodge Manufacturing Company, New York, N. Y.

MR. K. W. WATERSON, American Telegraph & Telephone Company, New York, N. Y.

MR. J. E. BANKS, American Bridge Company, Ambridge, Pa.

MR. R. H. BOOTH, Bridgeport Brass Company, Bridgeport, Conn.

MR. F. W. THOMAS, Atchison, Topeka & Santa Fe Railway, Topeka, Kansas.

MR. M. L. PIERCE, Hoover Suction Sweeper Company, North Canton, Ohio.

MR. J. O. STEENDAHL, S. F. Bowser & Company, Fort Wayne, Ind.

MR. LADSON BUTLER, Yawman & Erbe Manufacturing Company, Rochester, N. Y.

CAPT. JOHN H. AYRES, Police Department, New York, N. Y.

DR. OTTO P. GEIER, Cincinnati Milling Machine Company, Cincinnati, Ohio.

MR. R. A. SIGSBEE, The Federal Reserve Bank of New York, New York, N. Y.

DR. HENRY MOSKOWITZ, Submarine Boat Corporation, Newark, N. J.

DR. L. F. FULD, Henry L. Doherty & Company, New York, N. Y.

MR. W. G. CATLIN, Shepard Electric Crane & Hoist Company, Montour Falls, N. Y.

MR. A. F. PICKERNELL, Abraham & Straus, Brooklyn, N. Y.
MR. J. D. GILL, Atlantic Refining Company, Philadelphia, Pa.
Respectfully submitted,

(Signed) JOHN F. KELLY, *Chairman*
HARRY A. HOPF
H. H. TUKEY
J. E. BANKS
H. E. PUFFER
Committee on Nominations

THE CHAIRMAN: You have heard the report of the Nominating Committee. Are there any other nominations? If not, a motion is in order to adopt the report of the Committee.

MR. HARVEY: I move that the report of the Nominating Committee be adopted.

(Motion seconded and carried.)

THE CHAIRMAN: The motion has been unanimously carried. A motion is now in order that the secretary cast one ballot for the offices as nominated. I believe that is the legal requirement.

MR. C. E. SHAW: I move that the secretary be authorized to cast one ballot for the ticket named.

(Motion seconded and carried.)

THE CHAIRMAN: The secretary has duly cast one ballot for the nominees as submitted by the Nominating Committee, and the members named by the Nominating Committee are duly elected members of the Executive Committee.

The next order is new business.

MR. I. B. SHOUP: I move that arrangements be made by the Association whereby the managing director might visit each of the Local Chapters at least once a year.

MANAGING DIRECTOR HENDERSCHOTT: Under the present conditions this is impossible and can only be accomplished when the Association has secured the full time services of a Managing Director.

MR. J. E. BANKS: Has the Committee on Plan and Scope any plans in mind that would enable us to carry out what is desired in this resolution? Have they had any conference and agreement with regard to such matters?

MR. L. L. PARK: The Committee on Plan and Scope has not met and has no report to make at this time. The Committee wants to make as complete a study as possible of the whole situation of the affairs of the Association, its policy and the best method of working out that policy and we shall welcome any suggestions in that respect that the members of the Association care to make.

(It was then voted to refer Mr. Shoup's suggestion to the Committee on Plan and Scope.)

THE CHAIRMAN: There has been some discussion as to whether or not it is desirable to report each year upon all of the subjects that were reported upon this year. I discussed with Mr. Jefferson as to whether in his judgment his Committee should attempt to report each year, or report two years from now on the progress that has been made in reference to the subject-matters dealt with by his Committee. I think that the same idea might be applied to some of the other Committees and a study made to determine whether or not there are some subjects that might with value be reported on every other year. The Executive Committee determines on what subjects reports shall be issued and appoints the chairman of the several committees. It might be well to ascertain from the members of the Executive Council on what subjects reports should be presented and place these data before the Executive Committee when it meets to appoint the Sub-Committee.

MR. L. A. HARVEY: Due to the rapidly changing conditions in Foreign Commerce I suggest that there be at least a partial report by this Committee next year.

MR. H. M. JEFFERSON: Owing to the fact that such a large proportion of the young men have their eyes on foreign trade as their career it would be unwise to postpone the report of this Committee until 1923.

MR. J. E. BANKS: I suggest that some plan be arranged whereby there can be the proper reception and discussion of the reports without holding parallel sessions.

THE CHAIRMAN: All of this discussion will be referred to the Executive Committee.

MR. GILL: In my opinion the volumes of Annual Proceedings of our Association are unexcelled and, indeed, I do not know when they have been equalled in value in the discussion of the problems of human relations in industry.

The volume of Annual Proceedings has been built up through the work of Committees, that have been actively engaged in industry, and whose members have whole-souledly tackled their problems.

Two or three years ago I was appointed a member of the Committee on Executive Training. About six weeks before the 1920 Convention I received a typewritten copy of the report of the Committee. I had never been notified of any meeting of

the Committee, in fact, knew nothing about the progress of the report until I received this copy. The same thing occurred with this year's report. The manuscript was sent to the printer before I had had the opportunity to add to or suggest any changes in the report.

This condition is most unfortunate because the success of the Association depends upon cooperation.

The Association has made great progress. It has impressed Britishers, Italians, Frenchmen and Japanese, who are interested in the problems of management, and the reason that these foreigners have been impressed so greatly is because they have read the volumes of Annual Proceedings, which are a crystallization of all the ideas that can be brought about, starting with the members of the Committees and winding up in the discussions at our annual Conventions.

Unless we have the close cooperation of all the members of the Committees the Association can not publish the Annual Proceedings that are of such extraordinary value and the members of the Association will not get out of the Association what they want to get out of it.

Had I been personally meeting more or less regularly with the Committee on Executive Training, I feel that my own personal knowledge, and the value which that knowledge would have brought to the organization I serve would have been greatly advanced, and we should today have undoubtedly a course on executive training which we expected to experiment on largely this coming Fall.

We do not want to experiment any more than we have to, but it is, in fact, the experiments of individual corporations that go to make our progress. We are going to experiment, but certainly should have liked to have had the benefit of the opinions of other members of the Committee who were working on this thing so as to start the experiment in the best way.

THE CHAIRMAN: Dr. Gowin, Chairman of the Committee on Executive Training, for this year, went to Berlin and wrote the report.

April 1st was the date set by the Executive Committee on which all Sub-Committee reports were to be in the hands of the Managing Director. This was necessary in order that the

reports could be printed and in the hands of the members before the Convention.

Chairmen have often complained that when a meeting is called that many of the members of the Committee do not attend.

MR. C. E. SHAW: As the members of the Sub-Committees give purely voluntary service it is almost impossible to get the members to attend the meetings due to the fact that it is very difficult to arrange a time and place suitable to all and then too there are the traveling expenses.

In spite of the difficulties that are met in getting out the reports they are unusually good. I should like to suggest for the consideration of the Executive Committee the advisability of a plan to render a certain amount of assistance in getting out the copy for the Sub-Committee reports.

Voluntary service necessarily means that the report must be a side issue and under this condition the best results can not be attained.

I hope that the Committee on Plan and Scope will consider a plan to secure one or two people to do research work and thereby help the Chairmen to present reports that will be of even greater value than they are at the present time.

MR. H. H. TUKEY: My committee consisted of 12 members and when I called a meeting only three were present. Due to an error of mine two members were not notified.

As many of you know it is not desirable to be the Chairman of a Sub-Committee because from the very beginning you might as well make up your mind to do the job yourself.

The reports are of tremendous value to us. As members of the Sub-Committees we have a job on our hands to do and let us do it.

Perhaps a plan might be arranged whereby the various subjects could be discussed at the Local Chapter meetings and the results forwarded to the Managing Director's office and the reports compiled from these data, that is until we are able to have paid assistants to the Managing Director.

MISS ANNE DURHAM: Two young ladies in our office are on Sub-Committees. One who had not done any work asked for permission to attend the meeting—the object being the trip and not work. The other young lady when asked to have the

report of her activities in by the middle of March turned it in the end of the month, too late for the Chairman to have his report in the Managing Director's hands by April 1st.

MR. J. E. BANKS: I have had very satisfactory relations with the members of my Committee for the past five years. In almost every instance the members of the Committee did that something that was put to them to do. Whenever possible we visit the plant with which one of the members is connected. We not only make these visits enjoyable but profitable.

MR. ARTHUR H. CARVER: Not only would I have given assistance but my Company would have required it of me, after I had accepted membership on the Committee, but I was not asked and never had the chance to do any work as a member of the Committee. I know now that this condition was not intentional but an oversight due perhaps to our great distance apart. The report that I shall make to my Company will keep them in membership in the Association for it is well worth their while. We are ready and want to take an active part in the work of the Association.

MR. HUGO DIEMER: I have had occasion to visit and consult with the officials of a great many corporations, and I do not know whether all of the members of the Association realize the esteem in which our reports are held, or the high value that is put on them by the many corporations and many individuals who are not connected with this Association.

The reports of this Association represent the best type of industrial research, and the best type of monographs gotten out by any organization in the country. This opinion, I think, is held by a great many people.

That being the case, it seems to me that every member of a Committee must feel the weight of his public obligation, that any report that we make must be a scientific, complete and unbiased report. That is what the public expects of our reports.

Due to the fact that the members of my Committee were scattered all over the country it was very difficult to hold meetings and consequently received very few comments from the members. Those of us who accept Committee appointments ought to feel our obligations in the matter.

THE CHAIRMAN: All of this discussion has been recorded and will be referred to the Executive Committee of the Exe-

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